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ABSTRACT

A study investigated certain mechanisms underlying the acquisition of phrasal verbs in English as a Second Language. Subjects were native Finnish- and Swedish-speaking students in Finland, most aged 16-25 years. The subjects were administered a multiple-choice test with each item containing two correct alternatives, a phrasal verb (preferred by native speakers) and a synonymous one-part verb, and two distractors. Results show that both language groups tended to avoid or under-use English phrasal verbs, but Finns significantly more than Swedes in early stages of learning. The choice pattern among Swedes also reflected a native language pattern. It is argued that both these patterns are indirectly due to first-language influence, but also to the semantic properties of the phrasal and one-part verbs. The data also indicate that the difference in choice pattern found here between Swedes and Finns was evened out with learners who had received considerable natural language input, and that these subjects also showed the most native-like performance in English. Contains 23 tables, 20 figures, and 310 references. (Author/MSE)

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Kaj Sjöholm

The Influence of Crosslinguistic, Semantic, and Input Factors on the Acquisition of English Phrasal Verbs

A Comparison between Finnish and Swedish Learners at an Intermediate and Advanced Level

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by

Kaj Sjöholm

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Kaj Sjöholm

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1. Introduction

The topic of language acquisition has been a common concern among psychologists, linguists and language pedagogues. Psychologists find this topic fascinating because language is close to the core of what it means to be human; all normal humans speak a language, no nonhuman animal does.[1] Language is seen as an instrument by which people's thought processes can be revealed, and language and thought are intimately related. Understanding language acquisition means providing answers to many questions pertaining to human behaviour and human cognitive development. During the past few years, linguists have primarily been looking for information about the learner's hypotheses about language - what is universal, what is due to previous knowledge, and what is subject to awareness and so forth. The concerns of language pedagogy have been to apply the insights of psycholinguistic inquiry in syllabus design and in the classroom. The research interest in this study is primarily in the field of psycholinguistics.

1.1. Aims of the study

The principal question addressed in the present investigation is concerned with second-language research, i.e. the study of how learners learn an additional language after they have acquired their mother tongue. The study could be characterized as both theory testing and theory generating, aiming at explaining the mechanisms underlying second language acquisition. Answers to certain theoretically interesting questions were sought by using elicited performance data among advanced learners of English (Finns and Swedes). The general purpose was thus to make a contribution to our understanding of the mechanisms underlying second language acquisition. More explicitly, the following general aims were set up for the study.

---

[1] Ever since Chomsky's (1959) famous review of Skinner's *Verbal Behavior* (1957), few researchers have questioned the validity of the position that the capacity of acquisition and use of language is a species-specific genetic endowment (see Klein 1990, 219).

(1) To inquire into how different learner internal (prior linguistic knowledge; L1, L2, L3 etc.) and learner external (input) factors affect the process of second language acquisition.

(2) To reveal under what conditions crosslinguistic influences of different kinds (L1 influence, L3 influence, L1 induced avoidance etc.) occur in second language acquistion.

The empirical data of the study were collected from among Finns and Swedish-speaking Finns in Finland, who had been exposed to English primarily in a classroom setting.

1.2. Theory, data, and scope

In the following, a brief characterization of the study will be attempted. The purpose of this section is briefly to describe theory-based research, and especially to show how research questions, theories and data are interrelated.

Theoretical point of departure

As was suggested in the last section, the general purpose of this investigation is theoretical in the sense that it aims at increasing our current knowledge of second language acquisition (SLA). Saying this means at the same time that the study must start from theory. By theory is generally understood our current understanding of a phenomenon, i.e. more or less formal and more or less explicit statements of what is 'known' at a given point in time. Larsen-Freeman and Long maintain that theories take very different forms, but that the most valued (i.e. in the nomothetic scientific tradition) is the *causal-process* form, which consists of "sets of (deterministic and/or probalistic) causal statements, which together specify not only *when* or *that* a process (such as SLA) will occur, but *how* or *why*." (1991, 224). The theory format described above originates from the philosophical movement of the nineteenth century known as positivism. These philosophers maintained that theories should consist of statements of "general facts", that is, laws, but required additionally that theories should contain only empirically defined observational terms (see Crookes 1992, 427). Certain of these empirical laws or general sentences are identified as generalizations from which hypotheses can be deduced. This kind of theory is therefore *hypothetico-deductive*.

As was suggested above, the most prominent purpose of a theory is to explain why and under what conditions different processes and mechanisms inherent in SLA are likely to occur. Crookes (1992) argues in a recent article that SLA theories should contain two central concepts, *models* and *mechanisms*. Models are typically a human attribute, "or a central cognitive process known to exist in human cognition but not yet applied in the case of SLA." (Crookes 1992, 436). Yet models are seldom explicitly presented in theories. Thus, for example the model underlying Krashen's theory is that of a ladder and it explains little more than that second language acquisition progresses in stages that are sequentially arranged.[2] This model fails to answer how and why the learner moves from one stage to the next. Other models used in the depiction of SLA are the cognitive information-processing model of human cognition and the model of human skill learning (Anderson 1983; Bialystok 1990; Hulstijn 1990).

The other necessary concept in SLA theory is mechanism. The function of a mechanism is to show how the transition from one representational system to the next is effected. As McShane puts it, "it is necessary to specify some interaction between input, cognitive procedures and a representational system t_i whose product is a representational system at $t_i + 1$..." (McShane

---

[2] Krashen is mentioned because he has been regarded as a paradigmatic "theorist" of SLA. His theories will be analyzed in some detail in chapter two (see Krashen 1985).

1987,115). Many theories comprise just a set of laws, or a set of hypotheses, but no mechanisms are provided as a basis for an understanding of the processes of SLA. When they do occur, they tend to be vaguely defined and are often unsupported by empirical data. Larsen-Freeman and Long (1991) provide a good overview of mechanisms occurring in current SLA theories. They found that the mechanisms utilized in recent SLA theories could be subdivided into three main categories: nativist, environmentalist, and interactionist (1991, 227 ff.). In most nativist and environmentalist theories the explanatory mechanisms are absent. In some of the interactionist theories, however, the importance of explanatory mechanisms has been emphasized. Thus for example Anderson's production system model of skill learning is beginning to appear in the discussions of SLA (Anderson 1983). The explanatory mechanism of learning in this model is composition, which means that separate steps of processing are collapsed as a given production system is used repeatedly (Crookes 1992, 439). McLaughlin (1990) advocates a similar explanatory mechanism in learning. He argues for the need for restructuring, a mechanism that describes learning as a transition from language units represented as whole units in memory to more abstract, rule-like language representations.

Our current SLA theories originate basically from two sources, linguistics and psychology. Very many of the early SLA theories were adaptations of linguistic theories. Linguistic theories first and foremost described language competence. They consisted of general statements from which hypotheses were deduced about language competence (indirectly testable via performance data). More recently, SLA theories have been drawing heavily on psychology. Thus various kinds of computationally implemented models of human cognition such as production system models, artificial intelligence, and parallel distributed processing (PDP) have been applied to second language acquisition.

Selection of data

The theory format drawn on in this study could be characterized as hypothetico-deductive which implies that the starting-point must be our current theoretical understanding of SLA. Starting out from this knowledge, new hypotheses can be deduced and empirically tested in order to further deepen our SLA knowledge. The next problem would then be to make an adequate and up-to-date description of our theoretical SLA knowledge. Such a description should help us decide what aspects of second language acquisition are worth while focusing on. In other words, what kind of data are, from a theoretical point of view, communicative enough to enable us to reach some of the general goals set up in the study? Recent research in both descriptive linguistics and second language acquisition has shown that the traditional sharp distinction between syntax and the lexicon is unwarranted. Thus for instance Nattinger and DeCarrico (1992) describe language as an interrelated system of lexis, grammar, and pragmatics. According to them, language is to be viewed as a continuum with prefabricated, completely frozen clusters (idioms) at one end and freely combining morphemes at the other (see Fig. 3, p. 67). Between these poles there is a range of patterns of more or less frozen multi-word expressions (idioms, formulae, collocations etc.). It has been unclear, however, what role these frozen multi-word expressions play in SLA theory and theoretical descriptions of language.

Since an increasing number of researchers are beginning to believe that these prefabricated forms are somehow related to the "rule-forming" process in second language acquisition, it was thought pertinent to include them in our data (see Chapter 3.4). In fact, the multi-word expression known under the name 'phrasal verb' (verb + particle) was chosen as a special object of scrutiny in this study, because it was believed that 'learner data' on phrasal verbs would be ideal in many respects. Some of the reasons for choosing phrasal verbs are listed below. Firstly, as is commonly known by linguists, phrasal verbs are very frequent constructions in the English language (a fact that has been largely neglected in classroom teaching and syllabus design). Secondly, they are probably the most common and most representative of the English multi-word expressions. Thirdly, they are structurally positioned somewhere between lexis and syntax, which seems to be in line with the current view that second language acquisition is to be described as an interactional process between lexis and syntax.

Fourthly, phrasal verbs occur with varying degrees of frozenness. Fifthly, these constructions occur in Swedish, but not in Finnish, which are the mother tongues of the two groups of participants in this study.

So far, the selection of data has been made in terms of what kind of language material is being studied. Another important issue pertaining to data selection is what kind of data collection procedures should be used. This selection is very much dependent on the kind of research questions and hypotheses that have been set up in the research programme. Because many of the hypotheses set up in this study were based on a *comparison* of specific kinds of responses between learners with two different mother tongues (Finnish and Swedish) learning a common language (English), it seemed natural to use elicted performance data. Some of the tendencies set up to be measured in this study could hardly even in principle be accessible for measurement by means of spontaneous speech data. One such tendency was avoidance of phrasal verbs. In Chapter four, a more detailed description of the research questions and the hypotheses of the study will be given.

Scope of the study

It is obvious that the generalizability of the results in this study must be limited by the representativeness and theoretical communicability of the sample of language material used. In the previous section, it was argued that for many reasons phrasal verbs were most probably theoretically valid with respect to the research questions put forward in the study. However, it is doubtful whether the results from an investigation on the acquisition of English phrasal verbs can be generalized to other areas of language or to language as a whole. What can be said is that these results may elucidate an aspect of lexical acquisition, whereas the mechanisms underlying syntactic acquisition may well be different.

The generalizability of the results was no doubt also restricted by the type of data collecting procedure used. The results presented in this study are a product of an elicitation procedure, but it is not necessarily true that the same results would have evolved from spontaneous learner speech produced in a situation of social interaction and communication. Finally, as these data are derived from classroom English, the results are naturally valid for language acquisition in a formal, classroom context. The results cannot, however, indiscriminately be transferred to other contexts, e.g. an immersion context of natural input.

1.3. Layout of the study

A brief presentation of how this study is organized will be given in this section. As was mentioned previously in this introductory chapter, this study starts out from existing SLA theories. By collecting fresh data, it is hoped that new insights into the mechanisms and processes underlying second language acquisition will be achieved. The study starts with a general overview of current theoretical perspectives in SLA. After this state of the art description, some controversial issues in second language acquisition theory are treated. From these broader theoretical issues, the exposition is then narrowed down to what is called a lexico-semantic approach of SLA, which was chosen as the theoretical perspective for this study. This implies that SLA is seen to be taking place in a broader social interactional context in which the process of language acquisition is viewed as an interaction between lexical, semantic, and syntactic development. Language is described as lexico-grammatical units positioned along a continuum from totally frozen to totally free combinations. It is argued here that these frozen units (idioms, prefabricated patterns etc.) constitute an integral part of the overall language system, and furthermore, they are hypothesized to play a role in the process of second language acquisition. The focus of this study is on a specific idiomatic pattern, the phrasal verb. From the theoretical exposition of SLA, four main research questions and several hypotheses were derived. Answers to the questions and support for the hypotheses were sought by collecting data by means of a specially designed test instrument. The test was given to comparable Finnish- and Swedish-speaking learners of English and to native speakers of English for comparison. The main empirical results are presented in tabular and diagrammatic form. Finally, the results are discussed with reference to the theoretical reference frame and some conclusions are made.

2. Theoretical perspectives in second language acquisition research

---

A large number of scholars think that second language acquisition (SLA) ought to be viewed from multiple interdisciplinary perspectives, e.g. psycholinguistic, sociolinguistic, and neurolinguistic. In addition to the strictly interdisciplinary perspectives mentioned above "there are other perspectives, such as the classroom-centered research perspective and the bilingual education perspective, that must be addressed in order to achieve a full view of SLA." (Beebe 1987, 1). Some scholars argue, however, that second language acquisition is basically linguistics (cf. Gass 1989, 497), whereas others believe that cognitive psychology is the field to which second language acquisition rightfully belongs (cf. Rivers 1990, 125). A third theoretical position is the one taken by Gardner, who argues that second language acquisition is basically a social-psychological phenomenon (1983, 1985).

As has been pointed out by Sharwood Smith (1986, 13), in much second language acquisition research there has been a confusion between competence models and processing models. The former model is an attempt to extend the domain of linguistic theory (generative grammar) to a new world, i.e. that of second language learning, whereas the processing models go beyond linguistics proper and are primarily stemming from psychology (i.e. cognitive psychology). Spolsky argues strongly that the claims made by competence and processing models are very different in character. He states that a competence model makes no claims about processing, but attempts "to characterize in abstract or symbolic terms the system that best accounts for what we consider facts of language." (Spolsky 1989, 33). Whereas competence models focus on capturing the essence of the underlying abstract system of language, processing models ask how this system works and how it is acquired. To put it differently, processing models are committed to the psychological and sociological reality underlying language use and language acquisition in real time. Typical examples of processing models are performance models of L2 learning, which attempt to describe real world language behaviour (see Kilborn & Ito 1989; Nattinger 1990) as well as all kinds of cognitive models that concentrate on "procedural knowledge" rather than "declarative knowledge" (see McLaughlin 1987). Traditionally, linguistically based models of second language acquisition have been very dominant, but during the last decade or so different kinds of processing models (and performance models) have become more frequent. In the next section an overview of the most common models will be given.

2.1. Current theories of second language learning

The present state of the art in second language acquisition research seems to indicate that we lack the knowledge to state an over-arching theory.[3] The most ambitious attempt to state a general or "overall theory" has been made by Krashen in his Monitor Model (Krashen 1977, 1980, 1981). Monitor Theory was in the beginning not a theory of second language acquisition, but a model of second language performance. Krashen claims that two independent knowledge systems control second language performance. He argues that the processes that produce these systems, i.e. *acquisition* and *learning* , operate separately; the model acknowledges no "cross-over" or "interface" from one knowledge system to the other, e.g. through some consciousness-raising process as has been suggested by some scholars (Sharwood Smith 1981; Rutherford 1987; Schmidt 1990). In its more recent formulations, the monitor theory has been reduced to five major claims (or hypotheses), i.e. the Acquisition-Learning, the Natural Order, the Monitor, the Input and the Affective Filter Hypotheses (cf. McLaughlin 1987, 20; Larsen-Freeman & Long 1991, 241). Yet some of the most essential ingredients of Monitor Theory are derivable from linguistics. Krashen's "natural order", for instance, is a synthesis from the so-called "morphological studies" which established the existence of a common acquisition order for a subset of English grammatical morphemes (see Dulay & Burt 1973, 1974; Bailey, Madden & Krashen 1974). The linguistic impact can also be noticed in Krashen's adherence to the Chomskyan assumption that language acquisition is a language-specific innate endowment. Therefore, the more recent versions of Monitor Theory are more adequately characterized as a competence model than a performance (processing) model. Monitor Theory has, however, received a great deal of criticism which has discouraged many scholars from further theorizing, and teachers and others from expecting that theory will have any practical applications (Spolsky 1989, 6). Krashen's theory has been criticized for being too general and too vague; many of his theoretical constructs (e.g. i + 1) are not operationalizable, some of his claims cannot be tested empirically (e.g. that 'learning' cannot become 'acquisition')(see Gregg 1984; Takala 1984; McLaughlin 1987).[4]

---

[3] The terms 'theory' and 'model' are used somewhat more loosely in this chapter than in the introductory chapter where 'theory' was seen as a superordinate term for 'model' and 'mechanism' (cf. Crookes 1992, 436). In fact, the concepts pertaining to theory were given the same terminological labels as used in the original literature from where they were taken. So in this chapter theories will occur with various labels such as 'model', 'theoretical framework' or simply 'hypothesis'.

More recently, however, Spolsky (1989) has put forward a theory of second language learning which he characterizes as a *general* theory to distinguish it from "theories of formal classroom teaching", "of informal natural learning", "or the learning of one part of a language, such as sentence level syntax" (Spolsky 1989, 2). Spolsky's preference model implies the interaction of clusters of interrelated learning conditions. These conditions (he lists 74 conditions) can be necessary or typical, graded or ungraded. The issues Spolsky wants to deal with may be set out in the rhetorical form favoured by Joshua Fishman:

> Who learns how much of what language under what conditions?

---

[4] For a defence of Krashen's theories, see B. D. Schwartz (1986, 1988). See also Gregg's (1988) criticism of Schwartz.

Spolsky explicitly claims that his theory aims "to explore how to specify, as exactly as possible, the conditions under which learning takes place." (1989, 5). Thus his theory falls within the confines of a competence model rather than a processing model. He recognizes that the ultimate aim may be to build a model that exactly describes how learning takes place (i.e. a processing model), but we are still lacking in knowledge to do so. Although he admits the value in the metaphors provided by building models that simulate the process of language use or learning, the disadvantage of using them may be that once they have been created, they tend to dominate our thought (Spolsky 1989, 5).

Other "theories" can be characterized as "intermediate" and more limited in their perspective. One such model is the Interlanguage Hypothesis which sets out to describe the linguistic rules a second language learner has at any given point in the acquisition process (i.e. his interim stage grammar). According to the Interlanguage Hypothesis the learner's grammar (or interlanguage) changes in response to incoming data, and moves, by a series of successive approximations, closer and closer to the standard norm of the target language (see Bialystok & Sharwood Smith 1985, Davies, Criper & Howatt 1984). This model has been criticized for being too static and for not being able to capture the dynamic aspects of second language acquisition. The Interlanguage Hypothesis derives most of its ingredients from linguistics and is primarily to be characterized as a competence model, although the earliest formulation of interlanguage suggested a performance phenomenon (see Selinker 1969, 71).

Fairly recently, Chomskyan Universal Grammar Theory (see Chomsky 1965; Greenberg 1966; Gass & Ard 1984), which was first applied to children's first language acquisition only, has been extended to second-language acquisition. The theory claims that all language-learning tasks must be accomplished with deficient and degenerate input data. To explain how it is possible that children and second-language learners, in a relatively short time, can acquire the rules of a language, it is argued that the process is constrained by a set of innate principles. Acquisition of a language involves the setting of the parameters of that particular language in a specific way. As has been suggested by McLaughlin, most "second-language researchers who adopt the Universal Grammar perspective assume that the principles and parameters of Universal Grammar are still accessible to the adult language learner." (1987, 96). According to the UG theory, second-language acquisition occurs as learners are exposed to second-language input, and fix the parameters of the new grammar. When the settings are similar for L1 and L2, there will be no or few learning difficulties. Problems arise when parameters have to be reset in L2. The Universal Grammar Theory is a typical competence model and has so far been restricted primarily to "grammar" acquisition.

Schumann's (1978a, 1978b) pidginization hypothesis and acculturation model for second language acquisition is basically a linguistic model, but some attempts to incorporate social-psychological considerations in the acculturation notion are made. Schumann views second-language acquisition as just one aspect of acculturation, and hence acquisition is determined by the degree of perceived social and psychological "distance" between the learner and the target-language culture. A great social and/or psychological distance blocks acculturation - the learner does not make any progress beyond the very early stages and the language will stay at the pidginized level (see McLaughlin 1987, 112). Schumann's theory is restricted to informal, natural learning. The strong linguistic impact on this theory makes it a competence model rather than a processing model.

The theories of second language acquisition mentioned so far are all more or less derivable from the discipline of linguistics. There are, however, other disciplines that could provide us with useful applications. One of the most important of these is undoubtedly that which deals with how our mind works, namely, cognitive psychology (Rivers 1990, 125). The process-oriented models of cognitive psychology have set out to describe how the learner's organization of language in memory is put to work.

A theoretical perspective of the kind described above is the *information-processing framework*, which views acquisition as a complex cognitive skill. In the framework put forward by Anderson (1983), the acquisition of language skills can be described as (1) a gradual change from *declarative* mental representations towards *procedural* representations, and (2) a gradual change from *controlled* to *automatic processing* of these mental representations (see Hulstijn 1990, 30).

Another theoretical framework which also stems from the discipline of psychology is the work on *Parallel Distributed Processing* (PDP) (McClelland et al. 1986). The connectionist model (as it has been called by some researchers) is a strongly environmentalist theory of cognition which assumes no innate endowment. According to Gasser, PDP avoids "the brittleness of symbolic approaches" and exhibits "rule-like behavior without explicit rules" (1990, 179). It is argued that language acquisition is achieved without the rules proposed by competence models; learning is instead held to "consist of the strengthening and weakening of connections in complex neural networks as a function of the frequency of stimuli in the input." (Larsen-Freeman & Long 1991, 250). So far the PDP model is still in its very early stages, but as Spolsky puts it, Parallel Distributed Processing offers "a possible model for developing the kind of performance grammar that many scholars call for." (1989, 227).

Another performance model is the Competition Model, which has recently been applied also to second language acquisition (see Bates & MacWhinney 1981; MacWhinney 1985, 1989; Kilborn & Ito 1989). In the model, each lexical item or syntactic pattern is seen as a cue-function mapping. According to MacWhinney, cues are external phonological and word order patterns which can be detected during the process of comprehension, whereas functions are underlying communicative intentions or meanings (MacWhinney 1990, 72). Instead of rule-based accounts of second-language acquisition, the Competition Model is working with various mappings as correlations because it is believed that all categories are imperfect and subject to category leakage. By using the maximum likelihood technique it is possible to estimate the *cue strengths* of particular cues. Thus it was found that the relative strengths of preverbal positioning, subject-verb agreement, and animacy as cues to the function of "agency" differed in the sentence processing in English, Italian, German, French, and Hungarian (see MacWhinney 1990, 73). In the framework of the Competition Model, L1 transfer is accounted for as the application of the cue strength patterns of L1 in L2 comprehension and production. It is argued that, especially in lexical learning, learners as their initial hypothesis tend to search for native language cues in their interpretation of L2 structures (MacWhinney 1990, 78).

Of the sociolinguistically oriented theories of second language learning (cf. Schumann 1978a, 1978b), Gardner's socio-educational model is probably the most powerful to have been elaborated to date (Gardner 1983, 1985, 1988). The rationale behind Gardner's model is the belief that L2 acquisition is to be characterized as a social-psychological phenomenon. In consequence, it takes the social context of SLA as its foundation, and not the language being learned or some hypothetical division into *learning* and *acquisition* (Crookall & Oxford 1988, 136). Gardner's model of second language acquisition proposes that the social milieu in which language acquisition takes place should be taken into consideration. The model makes the hypothesis that the cultural beliefs inherent in this social milieu influence the development of two attitudinal variables relevant to language acquisition. The variables are *integrativeness* (i.e. positive affect towards the target language community and culture) and *attitudes towards the learning situation*. These two sets of attitudes are hypothesized to influence *motivation* and the three classes of variables are jointly referred to as *integrative motive*. Gardner's model predicts that integrative motive causally affects L2 achievement (cf. Gardner 1983, 222-223).

To sum up, this section has discussed two different perspectives of second language learning, the competence and processing perspectives. In this study it is argued that a multiplicity of perspectives is healthy although there are also dangers in taking such a view. As has been argued by Gass (1989, 517), there is no need whatsoever to limit ourselves only to issues of so-called competence and not consider issues of on-line performance (i.e. processing models). Especially if our aim is a theory for practical applications in the classroom, one may doubt whether a theory which describes the abstract language system (i.e. competence models) is the most adequate one. Therefore Nattinger argues that, if the goal of language teaching is "to get students to comprehend and produce language successfully and meaningfully", it might be "better for teachers to look towards theories of language use, at descriptions of language performance rather than those of language competence" (Nattinger 1990, 198). In this study a lexico-semantic approach to second language acquisition is adhered to (see chapter 3). According to this view second language learning is largely seen as the extension of the learner's meaning potential through a gradual modification of "lexemes" and "lexicalised patterns" (chunks) by semantic and syntactic elaboration.

2.2. Controversial issues in second language learning theory

In a fairly recent publication, Klein (1990) discusses the minimal requirements that any serious theory of language acquisition must meet. He argues that three components are inevitable in any process of language acquisition. Theories of language acquisition should be based on these three components. First, a theory of second language acquisition must contain a specific cognitive capacity (a human language processor). Second, there must be input of some kind (linguistic or nonlinguistic) and third, "there must be a reason to apply this marvellous capacity to input - there must be a motivation." (Klein 1990, 220). He concludes that there has been little disagreement about the following two points:
(a) second language acquisition (SLA) research must aim for a theory[5] , and (b) "the capacity to acquire and use a language is a species-specific genetic endowment" (1990, 219). Klein goes on as follows:

> What is arguable, however, is what such a theory of SLA should look like, how it is related to a theory of first language acquisition, and what its position within a theory of intelligent behavior in general should be; as well as what the "innate language capacity" looks like; in particular, whether it is language-specific or even a grammar-specific component of our cognitive system or whether it is simply the application of general cognitive capacities to the particular field of language. (Klein 1990, 219-20)

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[5] The requirements of a good theory have been discussed, for instance, in McLaughlin (1987, 6-12), in Larsen-Freeman and Long (1991, 220-227), and in Crookes (1992).

Klein asks himself what constitutes the first of the three indispensable components he mentioned - the language capacity proper. A pertinent question is whether our innate cognitive endowment also includes a "language module" - i.e. a subsystem which is specifically designed to handle language and its acquisition (Klein 1990, 222).

The modularity claim

The traditional view held by many theoretical linguists is consistent with the Chomskyan notion of modularity (cf. Chomsky 1980, 1981; Fodor 1981). The modularity claim, applied to language, "implies that there is, in the human mind, a task-specific subsystem whose operations are restricted to processing linguistic data for the purpose of acquisition." (Felix 1985, 51). According to this view, language and language acquisition is seen as a distinct "mental organ" or faculty, with features not shared with other cognitive systems such as perception, motor control, problem solving and so forth. The proponents of the faculty approach hold that distinct principles underlie the operations of distinct cognitive functions.

Others argue for a unitary, nonmodular human mind. Anderson (1983), for instance, regards it as not totally implausible that language might be a special case, a unique faculty-like skill, because of its long evolutionary history in which various language-specific adaptations might have occurred. He concludes, however, that "it seems more plausible that the language-specific adaptations are few and minor," and that these features are "not confined to language and are now used in nonlinguistic activities." (Anderson 1983, 3). Evidence from brain physiology, however, seems to support a modular approach to language acquisition, but not in its traditional form as an undifferentiated, isolated "language faculty". Thus observations among aphasic patients seem to indicate the non-existence of some undifferentiated language faculty. On the contrary, it seems to be the case that certain language functions operate independently of other language functions. Allport (1983) maintains that *lexical* ability can be impaired independently of *syntactic* and other functions of language; and vice versa. The search for a physical embodiment in the brain of an undifferentiated language faculty, a global language competence has shown that we are compelled to "think not in terms of *one competence*, but many distinct but interacting *competences* (Allport 1983, 75). The traditional language faculty approach is also abandoned by de Beaugrande (1987), who defines language processes as specializations of more general process types. Thus syntax would be a special case of *linear intelligence*, semantics a special case of the *acquisition and utilization of knowledge* and so forth (1987, 164). Current views about the hemispheric specialization of function are compatible with de Beaugrande's position. As emphasized by Genesee (1987), it is no longer thought that verbal or language stimuli (e.g. words) are processed in the left hemisphere and nonlanguage stimuli (e.g. melodies) in the right hemisphere. As argued by Genesee, current thinking emphasizes the differences in processing modes rather than types of stimuli:

> For example, it is thought that the left hemisphere is specialized to process information analytically and serially, whereas the right hemisphere is specialized to process information in a holistic, parallel manner. -- It is currently thought that the specialized processes of the left hemisphere, whatever they might be, are not specific to language, nor are the specialized processes of the right hemisphere specific to nonlanguage functions. Rather, the specialized competencies of each hemisphere are general processing modes. (Genesee 1987, 85)

The representation of second language knowledge in the learner's mind

Second language acquisition has in most theoretical models been described as a process of rule formation of some kind which is exhibited as formation and testing of hypotheses about the nature of L2 (cf. Tarone, Frauenfelder & Selinker 1976, 99; Faerch, Haastrup & Phillipson 1984, 190). There are, however, conflicting views on how these rules and hypotheses are represented in the mind of the learner. Many linguists assume that the units of language acquisition are much the same as those used by linguists themselves. This assumption is at best unproven, but probably wrong. Within a formal description of language and language acquisition formal linguistic rules may have a place, but as argued by Kilborn and Ito, "rules may be a less useful construct in building a performance model that accounts for the developmental aspects as well as the "steady-state" features of first and second language acquisition." (1989, 248). The notion of rule (i.e. formal rule) may therefore be too rigid to capture a process as complex and dynamic as second language acquisition. Kilborn and Ito point out two major shortcomings with rule-based models. First, rules tend to be an "all-or-nothing" matter; the rule is either acquired in totality (i.e. 100 %) by the learner or not at all. The problem arises when a second language learner uses or comprehends a "rule" only half of the time in an appropriate discourse context. A second shortcoming of rule-based models is, according to Kilborn and Ito, that they are described as single linguistic systems, considered one at a time (e.g. as in the interlanguage framework). Although this may be desirable from a linguistic point of view, it may not, in a natural way, account "for the real time processing considerations that constrain actual language use, for a learner's incomplete (L1 or L2) grammar, or for the possibility of interference and transfer between linguistic systems." (1989, 248-49).

Another serious risk with the characterization of the expanding language system of the second language learner in terms of rules is that we may easily overemphasize the aspects in the learner's performance which easily fit the rules we have detected while missing other potentially important aspects of the acquisition process that cannot easily be captured by our rule system (Kilborn & Ito 1989, 249). There is today some evidence that the acquisition in the beginning stages of children's first language acquisition is holophrastic, i.e. the first utterances and expressions are learned and coded as unanalysable wholes (Peters 1983, 89). Such *prefabricated* chunks or *formulaic* language which today have been found extensively also in second language learners' developing speech, were for a long time considered to be distinct from and somewhat peripheral to the main body of language, which was seen as the creative product of the systematic rules of competence (cf. Raupach 1984; Bolander 1989; Nattinger 1990). Today, within a performance framework of second language acquisition, these chunks are no longer seen to be isolated or peripheral to the creative rule-forming process, but may play a role in its development (cf. Hakuta 1974; Wong-Fillmore 1976).

Cognitive psychology and information-processing models of learning have sought to explain how second language knowledge is represented in the learner's mind, how the ability to use this knowledge develops and finally "how new knowledge is integrated into the learner's existing cognitive structures." (Ellis 1990, 176). The applicability of cognitive theories in L2 learning is, however, dependent on the assumption that language basically constitutes a general cognitive skill, not a specific isolated faculty of the human mind. Most information-processing models make a distinction between two types of knowledge, declarative and procedural. Faerch and Kasper (1987) maintain that the second language learner's mental representations of L2 (his *declarative knowledge*, knowledge that) comprise linguistic rules and elements as well as pragmatic and discourse knowledge in one or more languages. Declarative knowledge, which is stored in the long-term memory, cannot be employed immediately, but relevant parts of declarative memory have to be activated by working memory. The other type of L2 knowledge, which is referred to as *procedural knowledge* (knowledge how), designates the procedures of combining and selecting rules and elements from the declarative knowledge in speech reception, production, and language learning (1987, 115).

Two somewhat different accounts of how learners achieve control over new information have been prevailing among information-processing researchers. The first view (cf. Bialystok 1983, 1988; Bialystok & Sharwood Smith 1985) holds that the acquisition of second language knowledge can be described with reference to two dimensions, an analysed factor and an automatic factor.[6] The analysed factor concerns the degree to which the learner is "aware" of the structure of her linguistic knowledge. Bialystok (1988) emphasizes, however, that degree of analycity is not linked with consciousness and is not explicitly represented in the mind of the learner. Analysed knowledge is, however, potentially conscious and does make 'articulate' knowledge and metalingual knowledge possible (1988, 40). The analysed factor seems to be related to (although not the same as) declarative knowledge. The other dimension, i.e. that of control, has to do with the degree of access the learner has to knowledge (implicit as well as explicit). Learning is reflected in gains in automaticity, i.e. easier access and more fluent performance. Automaticity, which is free of (linguistic) content, is a result of practice. Bialystok and Sharwood Smith (1985) conceive of these two factors as independent of each other.

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[6] For a recent criticism of Bialystok's information-processing view, see Hulstijn (1990); for a reply to Hulstijn's criticsm, see Bialystok (1990)

The other account of how information-processing has been applied in L2 acquisition originates from the works of Anderson (1980; 1983). Both models are based on the notion that human beings have limited information-processing abilities, but the major differences lie in the fact that the learner, in Anderson's terms, acquires a skill in two interconnected stages, a declarative and a procedural stage (the equivalent constructs in Bialystok and Sharwood Smith are regarded as autonomous entities). In the declarative stage, learners acquire isolated facts (declarative, propositional knowledge), which is a slow procedure requiring much attention-allocation capacity (short term memory) to organize and integrate these pieces of information (controlled processing) (cf. Hulstijn 1990, 31). In the second stage, the declarative knowledge is converted into its procedural form by the gradual processes of composition and proceduralization. The procedure is now controlled by the long term memory, and the execution of its composing parts does not require much attention and more capacity can be allocated elsewhere (automatic processing).

There seems to have been an unnecessary dichotomization between these two accounts of information-processing. A quite prevalent misconception is that controlled processes are believed to require conscious effort for their execution (cf. McLaughlin 1987, 152). Because automatic processes occur with great speed, their constituent parts are usually, but not necessarily, "hidden from conscious perception." (McLaughlin, Rossman, & McLeod 1983, 140). McLaughlin, Rossman, and McLeod go on as follows:

> Some controlled processes also occur with great speed, so that they may not be available to conscious experience. Shiffrin and Schneider (1977) called these controlled processes "veiled." Other controlled processes, those they referred to as "accessible", are easily perceived by the learner. (McLaughlin, Rossman, & McLeod 1983, 140)

Kellogg (1982) argues that a learner's awareness of concept learning processes is dependent on the constraints of the task. When the nature of the learning task does encourage hypothesis testing, accurate information about the processes could be yielded by introspection. On the other hand, when learning took place solely by means of frequency processing, introspection proved to yield inaccurate information about the processes.

It is reasonable to assume that task-based activities are more frequent in instructed than natural second language learning settings. In a recent paper, Long and Crookes (1990) even suggest task as a viable unit of tutored second language acquisition. They advocate a task-based syllabus design because it derives its rationale from what is known about human learning in general and second language acquisition in general, rather than from an analysis of language and language use, as is the case with structural, notional, functional, lexical, and relational syllabuses.

The role of input in second language acquisition

The linguistic data available to the learner from a potential target language are usually known as input. Although the amount and type of input may differ, language input is evidently a necessary condition for both first and second language accquisition (cf. Wode 1981, 302; Klein 1990, 220). Therefore, a theory of second language acquisition must somehow account for input. Our view of input is inevitably circumscribed by our view of language (Saleemi 1989, 174). If a narrow view of language as a theory of grammatical competence is adopted, grammatical form will be emphasized in the study of input (i.e. linguistic input). Conversely, a broader view of language (functional, interactional, or sociocultural) demands an expanded perspective of input (Saleemi 1989, 174).

Although input is generally held to be a necessary condition for SLA, the advocates of universal grammar (UG) minimize the role played by input. According to their innatist view, "even impoverished and degenerate data may trigger off the necessary processes of language acquisition." (Saleemi 1989, 178).

A somewhat similar view is taken by the creative-constructionists (after Dulay, Burt, and Krashen 1982). Krashen maintains that a necessary condition of acquiring a second language is comprehensible input, i.e. linguistic data slightly beyond the learner's current IL knowledge (the i + 1 formula). Inherent in Krashen's theory is the terminological distinction between second language 'acquisition' and second language 'learning'. He defines *acquisition* as 'a subconscious process identical in all important ways to the process children utilize in acquiring their first language' (1985, 1) and *learning* as 'a conscious process that results in "knowing about" language' (1985, 1). Krashen conceives of metalingual knowledge such as 'learning' as entirely separate from 'acquisition'. Thus Krashen has adopted the non-interface position, arguing that 'learning' cannot be converted into 'acquisition'.[7] Krashen's concepts have, however, been criticized as theoretically ill-founded and empirically untestable (Gregg 1984; Saleemi 1989). Saleemi concludes:

> Part of the problem is that learning is usually thought of in extreme terms by Krashen. It is, for example, assumed that conscious learning of a language involves the learning of preanalysed rules of grammar, and that such learning accordingly entails an ability in the learner to state these rules. None of these assumptions is correct, however. Some focus on form is not only natural but perhaps completely unavoidable. (Saleemi 1989, 181)

It is also remarkable that Krashen's theory lacks all reference to cognitive constraints such as those pertaining to attention, memory, processing of verbal information etc. In this respect, Krashen's hypotheses resemble the UG position: an issue of psychological nature is dealt with "without actually specifying the processing mechanisms involved." (Saleemi 1989, 181).

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[7] The terms 'acquisition' and 'learning' are enclosed in quotes when referring to Krashen's distinction of the two, elsewhere *acquisition* and *learning* are treated as essentially equivalent.

An approach essentially different from the two previous ones is the interactionist view which regards input to be a result of the negotiation of meaning between the learner and his interlocutors (Hatch 1978; Long 1981). Negotiable language data have been collected from natural (Larsen-Freeman 1980) as well as instructional (Seliger & Long 1983; Ellis 1985) contexts. The general idea is that second language acquisition is facilitated by an active participation in the process of communication.

Saleemi (1989) suggests that the three approaches described above could be viewed as sub-theories within a single comprehensive theoretical framework schematized in the form of three concentric circles. The interpersonal, communicative context in which acquisition typically occurs is located in the outermost circle. In the middle circle we find the environmental input which is transformed into intake at the interface with the innermost circle, which corresponds to UG (Saleemi 1989).

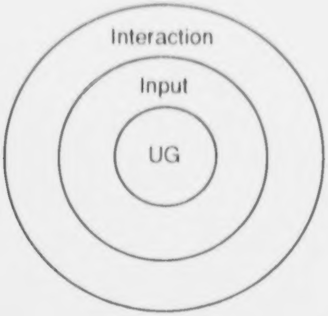

Figure 1. *Levels of SLA (according to Saleemi 1989, 185).*

So far, input has been treated as the actual linguistic forms the native speaker uses with the learner. But as Schachter (1986) points out, the role of input in language acquisition involves also "the manner of presentation of those forms", and "the metalinguistic information provided by the native speaker to the learner regarding the learner's linguistic productions." (1986, 215). Are the syntactic constructions used by the learner somehow different from those used by nonlearners or are the lexical items chosen particularly transparent semantically or prototypical? Metalinguistic input involves the information provided to the learner that her language is in some way deficient, deviant, unacceptable or incomprehensible to the native speaker. Metalinguistic information may sometimes imply straightforward corrections, "but other times it serves only to notify the learner that a problem exists, and then it is up to the learner to identify the source of the problem."(Schachter 1986, 215).

The UG-based view of acquisition, and also Krashen's comprehensible input hypothesis, make strong claims about the role of input. On the one hand, the advocates of UG assign a minimal role to input which is viewed just as triggering data for the universal, innate principles of language acquisition. On the other hand, Krashen's creative construction view holds that input is all-important, but refers also to an LAD-like construct which more or less automatically sorts out the comprehensible input from stretches of native speech. According to Krashen, metalinguistic input does not contribute to language acquisition at all, whereas some proponents of UG (e.g. White 1983) argue that metalinguistic information from classroom teachers might be helpful under certain conditions.

Neither of these two approaches, however, specifies what the processing mechanisms at the interface between mental structures and environmental input look like. It has long been recognized that not all the input learners are exposed to "goes in". Corder (1967), who was the first to define "intake" claimed that "... input is 'what goes in', not what is *available* for going in, and we may reasonably suppose that it is the learner who controls this input, or more properly his intake. This may well be determined by the characteristics of his language acquisition mechanism ..."(1967, 165). In a recent article Schmidt (1990), drawing on evidence from information processing theories, argues that intake is essentially learner controlled, i.e. "intake is that part of the input that the learner notices" (Schmidt 1990, 139). He argues that one of the reasons why theoreticians of second language acquisition have avoided the concept of *consciousness* (which 'noticing' can be derived from) is that it has several senses and is often used ambiguously. According to Schmidt, 'consciousness' may refer to (a) awareness, (b) intention, and (c) knowledge. He maintains that 'noticing' can be subsumed under awareness and defines it as follows:

> Noticing thus refers to private experience, although noticing can be operationally defined as availability for verbal report, subject to certain conditions. -- The lack of a verbal report cannot be taken as evidence of failure to notice unless the report is gathered either concurrently or immediately following the experience. There are also conscious experiences that are inherently difficult to describe. (Schmidt 1990, 132)

Awareness can according to Schmidt (1990) be divided into three levels the second of which is 'noticing' (or 'focal awareness'). The first level is *perception*, which can be characterized as the mental organization or the ability to create internal representations of external events. Perceptions can either be conscious or subliminal. The third level, *understanding*, implies that we can "reflect on the objects of consciousness and attempt to comprehend their significance, and we can experience insight and understanding. Problem solving belongs to this level of consciousness, as do metacognitions (awareness of awareness) of all types." (Schmidt 1990, 132-33).

This brings us back to the issue of the role of metalinguistic information (or negative evidence) in second language acquisition. It is, however, not sufficient to show that negative feedback to second language learners is frequent, it must also be shown that these learners, after receiving the negative evidence, alter their hypotheses about the target language (cf. Gass 1990, 40). If metalinguistic information is interpreted as making learners aware of certain unacceptable utterances they use in a communication situation (i.e. at the level of 'noticing'), then it probably plays a crucial role in second language acquisition. An explicit description and explanation to the learners of the abstract rule system of the target language (at the level of comprehension) is probably less beneficial to acquisition. Incidental learning,which according to Schmidt is subservient to consciousness as intention, is clearly both possible and effective when the task demands *attention to be focused on what is to be learned (1990, 129).*

The role of L1 in second language acquisition

Another controversial issue in second language acquisition theory is the role of L1. In the 1950s and 1960s, the role of L1 was best expressed in the general framework of contrastive analysis (CA). The principles of CA could be summarized as a systematic comparison of the learner's native language (NL) and target language (TL) in order to identify the points of differences and similarities. Lado claimed that "those elements that are similar to his native language will be simple for him, and those elements that are different will be difficult" (1957, 2). In the same vein, Weinreich argued: "the greater the difference between two systems, i.e. the more numerous the mutually exclusive forms and patterns in each, the greater is the learning problem and the potential area of interference." (1953, 1). From Weinreich (1953) and Lado (1957) onwards, the focus of research has tended to be on language differences rather than similarities (cf. Ringbom 1987). L1 was believed to play an important, predominantly negative role in second language acquisition, which is also reflected in the use of the term 'interference'. This was especially the view of many behavioristically oriented American researchers.

The predictions of these contrastive analyses were, however, relatively poorly supported by empirical research. On the other hand, these early contrastive studies were almost exclusively restricted to syntax and morphology and thus neglecting such aspects of language as lexis, discourse, pragmatics etc. Later, in the eighties, some scholars emphasized the facilitative effects of similarities (e.g. James 1980, Ringbom 1987). On the other hand, other scholars claimed that similarities between languages are even a greater source of difficulty than differences (e.g. Pica 1984).

In addition to casting doubt on the value of contrastive analysis, the empirical studies of the 1960s and 1970s showed not only "the similarity of some errors made by learners of many different language backgrounds, but also the similarity of some errors in both first and second language acquisition, which led many to wonder how different the two processes really were." (Odlin 1989, 19). These errors, which occurred regardless of the learners' native language, were interpreted by some researchers as an indication of a reactivation of the developmental processes found in first language acquisition, and accordingly such errors were termed developmental errors. Especially Dulay and Burt (1973, 1974) viewed these errors as strong evidence for the idea that all language acquisition, first and second, proceeds in terms of a set of fixed developmental sequences. Consequently, Dulay and Burt as well as Krashen argue that transfer plays a minimal role in the acquisition of grammar (see also Dulay, Burt & Krashen 1982). The starting point of second language acquisition was not believed to be the mother tongue, but a kind of universal grammar, which is either created or remembered from the learner's own first language development. Second language acquisition was thus seen as an active, creative process of hypothesis formation and testing (hence the creative construction hypothesis) and this process was primarily controlled by universal cognitive principles that determined how the learner would tackle the target language regardless of previous knowledge.

In the late 1970s and early 1980s, with the works by Kellerman (1977, 1979, 1983a) and Schachter (1983), transfer studies received a new lease of life. Kellerman (1979) emphasized the importance of dissolving the notion of transfer from its behavioristic bonds and saw no reason whatsoever why transfer could not be creative. By redefining transfer and making it compatible with the creative construction framework of L2 acquisition, it could still serve as an important theoretical concept in L2 acquisition. Similarly, Schachter (1983) interpreted transfer more as a constraint on the nature of the hypotheses language learners are making about L2 than the transportation of L1 features to L2. The renewed interest in L1 transfer resulted in the appearance of several anthologies and monographs of empirical studies on transfer (Gass & Selinker 1983; Kellerman & Sharwood Smith 1986; Ringbom 1987; Odlin 1989; Dechert & Raupach 1989). These studies showed that transfer or 'cross-linguistic influence', a term that has been adopted by many scholars as a more appropriate, theory-neutral cover term for a wide range of phenomena resulting from language contact (Sharwood Smith 1983; Kellerman & Sharwood Smith 1986), is a considerably more complex phenomenon, and not as negative, as was first thought by the proponents of early CA.[8] Furthermore, it was found that the SLA research had tended to focus too narrowly on ESL and therefore researchers have acknowledged that "there was a need to widen the scope of their investigations, particularly when making claims about L1 transfer." (Larsen-Freeman & Long 1991, 97).

In more recent studies of L1 transfer it has been attested that the learners' errors tend to have multiple sources. As Meisel (1983) has put it "as in real life, linguistic phenomena can hardly have only one parent."(1983, 44). Thus, with the increased number of studies of transfer as a process (in the 1980s), the inadequacies of a product orientation have become more apparent. The study of transfer as a process could help researchers to identify as L1 influence also such learner products that by the help of traditional methods of analysis would have passed unnoticed (or had been categorized as developmental errors).

Thus Zobl (1982) noted, in a case study, that a Chinese- and a Spanish-speaking child had taken different paths to the acquisition of English articles, because the formal category of articles is lacking in Chinese. Keller-Cohen (1979) found that a Japanese, a Finnish, and a German child acquired the English interrogative in roughly the same developmental sequence, but that the Finnish child acquired yes/no questions much more slowly, probably because of differences between first and second language structures.

L1 influence has also been attested as avoidance of troublesome L2 structures because their counterparts are expressed differently in L1 (Schachter 1974). A similar phenomenon is "underproduction" of certain structures that are lacking in L1. Ringbom (1987), for example, found that Finnish learners of English produced fewer articles and prepositions than comparable Swedish learners, probably because both categories are lacking in Finnish.

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[8] The neglect of taking up the facilitating effects of L1 on L2 learning (i.e. positive transfer) has lately been stressed by some researchers. For instance Ringbom maintains that one area where positive transfer is especially important is lexis (1987, 58).

There is also some evidence from research on vocabulary development that transfer may be facilitative of learning. Ard and Homburg (1983) found that the facilitative effect generalizes beyond lexical items that show overt similarity. Thus they found that Spanish learners of English did better than Arabic learners, not only on vocabulary items where there was a direct similarity in form and meaning between Spanish and English, but also on items where no such similarity existed.

In addition to all the research on the verification of transfer, some researchers have dealt with the issue of when transfer does not occur. Several scholars claim that linguistically unmarked features of L1 are easily transferred, whereas linguistically marked L1 features tend not to transfer (e.g. Eckman 1977; Kellerman 1979). Kellerman (1977, 1979, 1984) adds the dimensions of perceived L1-L2 distance, perceived semantic transparency of an item (usually idioms), and the learner's L2 proficiency as important constraints on transfer. Semantically transparent idioms are those in which the constituent parts have a meaning of which most learners/users of the language would agree is the central, core meaning (or prototypical meaning). It has been noticed that prototypical meanings of a conceptual category are learned before more peripheral members of the same category (Gass 1988, 101). The idea is that there are best examples, or best-fit members of a conceptual category, whereas other members of the same category are more peripheral. Thus Kellerman (1979) found that expressions containing prototypical or core meanings of "break" were on the whole accepted by Dutch learners of English, whereas expressions with peripheral meanings of "break" were not accepted, even if the equivalent expression existed in Dutch , e.g. "I BROKE the glass" was accepted, whereas "I BROKE the promise" was not.

2.3. Outline for a theory of second language learning

As has been emphasized by Spolsky (1989), theories of second language learning often tend to neglect the fact that any kind of learning takes place in a social context. Thus the social context may include components such as the exposure of the learners to the target language and to other languages, the role of the target language and other languages in the community and outside it and in the home, the general attitudes learners have towards the target language and its culture and generally to bilingualism (see Spolsky 1989, 25). The impact of the social context will also be evident in the provision of opportunities for language learning. These may roughly be grouped into formal and informal situations. The formal learning opportunities are derived from the school's goals and priorities, whereas the informal situations for language use and learning "are available in different kinds and amounts according to social conditions which determine the potential opportunities for a learner to interact with speakers and writers of the target language." (Spolsky 1989, 26). The social context influences the learner's attitudes towards the community of the target language on the one hand and their attitudes towards the learning situation on the other. In the latter set of attitudes, Spolsky wants "to include the learner's expectations and perceptions of the learning task and its possible outcomes." (1989, 26). These two sets of attitudes and specific learning goals will lead to the development of motivation on the part of the learner. Klein argues that, in addition to input and a specific cognitive capacity, a theory of second language learning must also contain motivation, i.e. a reason why you acquire a language. Especially in instructed second language learning and in teaching, argues Klein, this last mentioned component plays an important role:

> But depending on the reason why you try to acquire a language, this process and the final results can look very different. When you are driven by the (not necessarily conscious) wish to become a normal, unperspicious member of some social community, you had better replicate its speech habits as accurately as possible. When you only want to make yourself understood during a journey in a foreign country, there is no need to invest much cognitive effort. (Klein 1989, 20)

In fact, Kilborn and Ito (1989) believe that motivation may be a crucial factor when distinguishing between first and second language acquisition. They argue that the reason why L1 cues have been seen to persist far into L2 acquisition "may derive from principles of optimality, which demand that the L1 learner establish the best, most complete form-function assignments possible, regardless of cognitive "cost"."(Kilborn & Ito 1989, 276). L2 acquisition is, on the other hand, more likely to be controlled by principles of economy, since the motivation for the L2 learner may be to communicate efficiently and quickly, even at the cost of failure to achieve nativelike performance on some parameters. (Kilborn & Ito 1989, 276). Figure 2 below is an attempt to summarize Spolsky's and Klein's main requirements of a general model of second language learning.

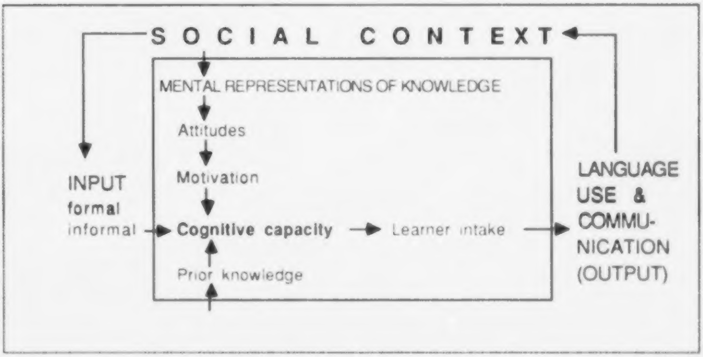

Figure 2. *General model of second language learning.*

The model above acknowledges the role of situational context. Early SLA research consisted of a collection of isolated learner utterances "which were then subjected to various kinds of analysis." (Ellis & Roberts 1987, 3). In addition to examining the language produced by the learner, the theoretical framework put forward above stresses that attention should be paid also to the language addressed to the learner (i.e. the input) as well as to the situational context in which the data was produced. The model also captures the distinction between SLA in a naturalistic domain (or informal situation) and SLA in a classroom domain (formal situation) which has been stressed in recent research (Ellis & Roberts 1987; Ellis 1988; Ellis 1990).[9]

One part of our language learning capacities constitutes the innate aspects of our cognitive endowment which is responsible for language acquisition, and another part comprises some general cognitive capacities such as memory, reasoning and the like (cf. Fig. 2). As was discussed previously in this chapter, the question whether our innate cognitive endowment also includes a "language module", is still an unsolved problem. Klein rightly points out that a theory of human mind that can do without such an extra module is a far better theory than one that has to stipulate it, because such a theory would be more general and more parsimonious (1990, 222). If we are to assume that such a module exists, there must be very strong evidence for it. Some recent empirical findings (for instance from the field of neurolinguistics) appear to show no evidence of such innate language module (cf. Allport 1984; deBeaugrande 1987). A special innate module called Universal Grammar (UG) has been argued to play an important role in L1 acquisition. Some linguists maintain that UG principles constitute a set of constraints that apply also in second language acquisition (cf. Krashen 1985; White 1988). This has been challenged by some semantically and functionally oriented researchers. Klein (1990), for instance, argues that "it is the function that drives the acquisitional process, not abstract syntactic properties" as suggested by UG proponents. He takes his examples from the acquisition of English personal pronouns. Klein maintains that the first and second person, which have a deictic function, are acquired differently (and earlier) from the third person, which has an anaphoric function. Had the acquisition of pronouns been driven by their syntactic properties as believed by UG proponents, they would have been treated as a uniform class (1990, 228). Similarly Ard and Gass (1987) found that, in the acquisition of four syntactic patterns, the second language acquisition process was lexically and semantically driven rather than syntactically driven.

Klein (1990) argues that there are, in L1 acquisition, some fundamental functions that a learner must first master. In addition, the learner has to find out how to linearize this and other information in such a way that it becomes intelligible to a listener. This is done differently from language to language. Typical of L1 acquisition is that a learner must, in addition to working out these basic functions, also acquire the particular means of the L1 (Klein 1990, 230). In L2 acquisition the "knowledge state" from which the learner approaches the input is different. Klein has expressed this as follows:

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[9] For a comprehensive, and up-to date exposition of the "state of the art" of SLA research, see Ellis 1994.

> In L2 acquisition, the basic functions are there and brought to a new input. It is these functions, therefore, which drive the learner to break down parts of the input and to organize them into small subsystems, which are reorganized whenever a new piece from the flood of input is added, until eventually the target system is reached (or more or less approximated) (Klein 1990, 230).

In a functional view of L2 acquisition, L1 transfer or "the invasion of L1 strategies into L2 processing" is handled without a problem: "the L2 speaker continues to rely on cue weights assigned to various form-function mappings in L1." (Kilborn & Ito 1989, 278). What a functional perspective (like the Competition Model) is less specific about is whether the acquisition process comprises rule-like transfer or whether the apparently rule-governed behaviour does not involve rules at all, but "is instead a solution which emerges from a limited set of nodes with changeable interconnections" (Kilborn & Ito 1989, 280).

A synthesis of the fundamental theoretical issues discussed in this section could be that we should be modest enough to admit that at present there exists no satisfactory theory of second language acquisition. What seems to have emerged from our theoretical survey is that an interdisciplinary perspective is needed and that competence models do not supply us with a sufficient basis of second language acquisition. On-line performance and the specific language processing mechanisms have also to be accounted for. The diverse nature of the phenomenon of language and the fact that it operates at several levels, have led some linguists to suggest that second language acquisition is also a multi-level process (Long & Sato 1984). Saleemi, for instance, argues that it may well be the case "that some components of L2 are input driven, while others are controlled from within the linguistic-cognitive system" (1989, 186). If this is true, it is futile to aim at a single over-arching theory, but what we need is a number of related theories of second language acquisition within a single comprehensive framework. As a matter of fact, a number of researchers argue that second language acquisition is not a unitary, monolithic phenomenon, but a modular one (Faerch & Kasper 1986; Lehtonen & Sajavaara 1985; Sharwood Smith 1985, 1994). Therefore, Saleemi finds it "possible that morphology and syntax depend on UG to a greater extent than do lexically and situationally driven comprehension and discourse processes." (1989, 186). The empirical part of this study will primarily be concerned with lexical aspects of second language acquisition which will therefore be seen as lexically and semantically driven rather than being controlled by syntax. What consequences a lexico-semantic approach will have for syntactic processing is not clear, but some recent studies suggest that lexical and syntactic development are interconnected processes.

3. A lexico-semantic approach to second-language acquisition

A lexico-semantic approach to second language learning assumes that much of what looks like syntactic acquisition may, in fact, more appropriately be described as lexical and semantic acquisition (cf. Ard & Gass 1987, 233). Syntax has, to the present day, played a central role in the construction of second language learning and teaching theory as well as in practical language teaching and syllabus design. One of the reasons for this could be that it has been customary among traditional linguists to look at grammar (in the sense of syntax) as something which is interconnected and internalized, whereas the lexicon has been viewed "as something isolated from other parts of the grammar." (Gass 1988, 95). In a lexico-semantic approach, the lexicon of a language is not viewed merely as an inventory, or an infinite list of vocabulary items, but as a systematically organized set of interrelated and interdependent elements. Thus competence for language use involves an intricate interaction between a whole range of "lexical items" and "grammatical rules". Not all sequences memorized and produced by a learner have the status of a lexical item. As stated by Pawley and Syder, an expression becomes a lexical item only if (1) "the meaning of the expression is not (totally) predictable from its form", (2) "it behaves as a minimal unit for certain syntactic purposes", and (3) "it is a social institution" (1983, 209). In a strictly lexico-semantic approach it is argued that syntactic development is rather to be seen as a cause of lexical (and semantic) processing, and not vice versa. To put it in Lewis' words "[L]anguage consists of grammaticalized lexis, not lexicalized grammar" (1993, 89). It could be argued, however, that a prerequisite for a lexico-semantic approach to be valid is some degree of interactiveness and communicativeness in the learning situation. As a matter of fact, it has been widely agreed upon that the development of communicative competence is a justifiable general goal of language learning and teaching, although the most recent pedagogical suggestions on how to achieve this goal are unclear, unconvincing and unjustified (cf. Marton 1988). Yet it could be assumed that the communicative objectives set up in the language syllabuses of today are implemented as communicative language teaching at least to some extent in most schools.[10]

3. 1. L2-acquisition as an interaction between lexical and syntactic development

Within linguistics and second language acquisition research, syntax has, as was suggested above, taken a major role in theory construction. Although the lexicon no longer can be said to be the 'neglected component', the majority of lexical studies are concerned with descriptive aspects of the lexicon rather than with the establishment of a theory of the lexicon (Gass 1988, 92). It is today widely recognized that lexical proficiency is a crucial component of communicative competence in a second language. Evidence of this comes for example from studies of native-speaker reactions to learners' errors (Johansson 1978; Politzer 1978). These studies showed that lexical errors were rated as more severe than errors of other kinds. Similarly, Faerch and Kasper (1983) showed that the problems learners have in making themselves understood are primarily lexical in nature. The learners' appeals for assistance concerned gaps in vocabulary rather than grammatical structure or pronunciation difficulties (cf. Harley & Lou King 1989, 416). It has also been reported that learners tend to focus their attention on content words rather than grammatical functors (Shapira 1978, 254).

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[10] Willis argues that the term 'communicative' activity in the classroom has been used to mean three different things. The first two, *citation* and *simulation*, are used to display a knowledge of linguistic form. The third one, which focuses on outcome, he calls *replication* activities, because they replicate "within the classroom aspects of communication in the real world." (1990, 59)

Empirical findings of this kind have led many researchers to raise the interesting question of how lexical and syntactic development are related to each other. In early L1 acquisition, for example, it has been suggested that "it is through the acquisition of individual verb lexemes together with piecemeal information about their argument structure that young children find their way into the grammar of the target language" (Harley & Lou King 1989, 416). Also in recent L2 acquisition research, similar lexically based hypotheses about language acquisition have been proposed. Bolander, for example, reports that formulaic speech occurs abundantly in early adult L2 speech (Swedish) and "sometimes the prefabs generate target language structures before the rule is actually acquired. It appears then that at least some syntactic rules - the marked ones? - are loosely integrated in the learner language." (1989, 84). Also Widdowson emphasized the important role of unanalyzed chunks in second language acquisition. He suggests that the first strategy of the L2 learner may be "to remember words and phrases as indivisible units, tagged with contextual value." In this view the learning of language comprises a "gradual modification of lexemes by syntactic elaboration." (1984, 327). Ard and Gass (1987) have arrived at a similar conclusion. In their study where they investigated the acquisition of four different patterns of relationships between English structures they question what has traditionally been interpreted as syntactic acquisition.[11] They argue that what superficially may look like syntactic acquisition, can, in fact, more appropriately be considered lexical or semantic acquisition. The conclusions they made about how syntactic patterns arise was that "the initial approach may be a piecemeal one with learners learning lexical items as unique bits of language information." (1987, 249). Like MacWhinney (1986) in his Competition model, they argue for the primacy of the lexicon, when they consider syntactic generalizations as a result, not a cause. Their data also suggested that semantically based factors in the learners' lexical organization became more important with increased knowledge of the second language.

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[11] Ard and Gass maintain that, although many interesting results have been obtained from studies of syntactically-grounded strategies of L2 acquisition, the fundamental assumptions underlying this kind of research have not been subjected to careful scrutiny. One of these assumptions is that "any significant relationship that learners learn that can be *described* syntactically must be *learned* syntactically." (1987, 233). The four relationships they studied could be described syntactically, but also lexically or semantically. Their data suggested that learners initially tended to acquire these relationships lexically, and later, with increased second-language proficiency, semantically.

As was suggested earlier, Bolander (1989) found that her adult Swedish learners tended to memorize sequences of various types, not only "routines" like *jag vet inte* "I don't know" or "patterns" like *det kan man göra* "it/so can one do" , but also ready-made smaller parts of language, which she called chunks or prefabs. Her conclusion was that L2 learning and processing employ chunks/prefabs to a greater extent than normally assumed. Because chunks, from the learners' perspective, are perceived and processed as unanalyzed wholes on an item by item basis, they are to be considered lexical in nature. Thus, her data supply us with further evidence of the importance of lexically oriented L2 acquisition. Chunk processing, she believes, may be an effective and economic means for language processing in general, comparable with memorizing a long telephone number. Her hypothesis on language learning is that when the number of prefabs stored in memory is sufficiently large, "syntactic rules are derived as help for the memory to economize and rationalize processing" (Bolander 1989, 85).

In studies of second language acquisition and processing, the role of memorization and repetition of complex units as opposed to rule-governed computation has been subjected to a reappraisal by many scholars. As early as 1976, Bolinger tellingly said that "speakers do at least as much remembering as they do putting together." (1976, 2). Aitchison, for example, found in her data on errors on word affixation that learners "start by using memory, and routine possibilities. If this proves inadequate, they turn to computation." (1987, 14). Similarly, Pawley and Syder (1983, 208) as well as Dechert (1983, 184) found that memorized sentences and phrases are natural building blocks of fluent spoken discourse. It is still a controversial matter whether such memorized chunks of language lead to grammatical rules.[12] Nattinger and

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[12] Yorio, for example, believes that adult second language learners do not use prefabricated, formulaic language very extensively, and when they do, "they do not

DeCarrico believe, however, that if these chunks were seen as formulaic units of social interaction, then their centrality in language acquisition would become more likely. "Many linguists now believe that social interactions come before the syntactic structures and provide the basis for them," (1989, 132). Also Hatch has arrived at a similar conclusion. She observes that a general assumption among linguists has been that the learner first starts to manipulate structures, and after having gradually built up a repertoire of structures, "then, somehow, learns how to put the sentences to use in discourse.". She proposes the possibility that just the reverse might happen. "One learns how to do conversation, one learns how to interact verbally, and out of this interaction syntactic structures are developed." (Hatch 1978, 404).

The new focus on the lexicon in L2 acquisition research has not been limited to the early acquisitional stages. It has increasingly been recognized that one of the major problems in advanced L2 acquisition is connected with vocabulary learning in general and more particularly with the phraseological component of lexis (cf. Alexander 1982, 1985; Howarth 1993). As Alexander puts it succinctly "If we view second/ or foreign language (L2) learning as an extension of the learner's meaning potential through the assimilation of a new phonological system, a new lexicogrammar and a new meaning system, it is perhaps fair to say that at the advanced stages of learning the major learning load takes place at the lexis-end of the lexico grammar." (1985, 613). Also Marton emphasized that if the productive skills of L2 English were to develop among advanced learners, it was vocabulary which should receive most of the teacher's attention. Marton's conclusion was that advanced Polish learners of English most often had a good functional knowledge of the basic phonological and syntactic patterns, but that their knowledge of the rules of lexical co-occurrence and language specific collocations was very limited (1977, 38-39). Marton attributes this to two factors. The first one was the dominating influence exerted by the structuralist

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appear to be able to use it to further their grammatical development." (1989, 68). Others maintain that formulaic speech in L2 acquisition is quite common and is not to be seen as distinct from the main body of language, and that it may contribute to the creative process of rule formation (Hakuta 1974; Wong Fillmore 1976; Bolander 1989; Nattinger 1990).

approach to language, in which sentence and its structure was regarded as the starting-point for all language teaching and learning. The appearance of transformational grammar did not change this pre-occupation with syntax "since to Chomsky and his followers syntax has been the generative component in language and sentence structure has been central to the most of their theoretical discussions." (1977, 34). The second factor was that the prevailing teaching methods and techniques had focused on the beginning stages of language instruction, in which learning syntactic structures was to play an important role. Furthermore, says Marton, there has been a more or less implicit conviction among many language teaching specialists that "the role of pedagogical devices and the role of the teacher are crucial only in the beginning stage while in the more advanced stages the learner learns by himself, ." (1977, 33). Alexander's (1982) review of some of the major works in structural linguistics confirmed to a great extent what was surmised by Marton. Lexis was pushed to the periphery of language by structuralist linguists. This was clearly displayed by Gleason's characterization of the lexicon:

> It is the least stable and even the least characteristic of the three components of language. (1961, 6)

Another feature of the vocabulary was its presumed facility for language learners. Hockett claims that vocabulary "is the easiest phase of foreign language to learn." (1958, 266), whereas Gleason gives the following advice to the language learner:

> In learning a second language, you will find that vocabulary is comparatively easy, in spite of the fact that it is vocabulary that students fear most. The harder part is mastering new structures in both content and expression. (1961, 7)

In recent years, however, the status of the lexicon in linguistics and second language acquisition has altered. It is, for example, today widely recognized that knowledge of language, or linguistic competence consists of more than "simply internalizing a set of finite rules such as a generative grammar might represent them." (Alexander 1978, 172). Advanced L2 competence entails also elements of the socio-cultural component which are located "beyond" the language system proper. Examples of such elements are pragmatic conventions of language use as well as other aspects of linguistic behaviour involving areas of target language lexis that interact closely with socio-cultural systems other than the language (cf. Alexander 1979, 192-93). This subset of the lexicon (idioms, collocations, conventional syntagms etc.) makes up a complex of language structures whose properties so far have escaped an overall treatment in linguistic studies (Sajavaara & Lehtonen 1989, 39). Although inadequately described, conventionalized forms represent an integral part of natural language. Advanced students, who may possess a near-native receptive competence, very often say (or write) something that is possible according to their school grammars, but which is characterized by a certain un-Englishness of expression. This foreignness of advanced learners' speech (despite its grammaticality) is according to Marton caused by an inadequate mastery of the conventional syntagms of the target language, which he describes as "any phrase or longer syntactic unit which is formed in accordance with the rules of lexical co-occurrence of a given language and which has a certain functional value for its users, i.e. is frequently used and is not a nonce construction." (1977, 40-41). A similar observation is made by Benson who points out that students will soon discover "that the major stumbling block to mastering English is learning how to form the vast number of arbitrary collocations that are essential to spoken and written communication." (1985, 189).

Conventionalized forms (or phraseology) are today accepted as an essential part of the native speaker's knowledge of the language. In a recent publication, Widdowson suggests that a phraseological approach has certain implications for language learning in general: "competence for use may involve not so much the generation of expressions by direct reference to rules as the adjustment of pre-assembled and memorized patterns. There are linguistic environments of a lexical kind which have a conditioning effect on the application of syntactic rules, and knowing this is part of the language." (1989, 128, 134). Thus competent speakers of English would not accept *before you leap, look*, although the sentence is 'syntactically grammatical', but would accept only the fixed expression *look before you leap*. The relationship between grammar and lexicon has also been the concern of Sajavaara and Lehtonen. They find lexical collocations very interesting, because one of the problems is the question of whether the language phenomena relating to them constitute part of grammar or lexis:

> It seems to be here that grammar is welded together with lexicon, but in the framework of a model which also attempts to conceptualize the processing aspects it is not unequivocally clear whether it is 'grammar' or 'lexicon' that serves as a channel through which language-bound information is searched in memory. To say the least, the idea of a lexically driven grammar, in which the two areas could be fused together, does not sound totally unappealing. (1989, 40)

More recent recearch indicates that the traditional sharp distinction between syntax and the lexicon may be unwarranted. Nattinger and DeCarrico argue that the *lexical phrase*, a lexico-grammatical unit existing "somewhere between the traditional poles of lexicon and syntax, " is a crucial unit for linguistic analysis as well as for language learning and teaching ((1992, 1). According to Nattinger and DeCarrico, lexical phrases comprise form-function composites which are similar to lexicon in being treated as units (more or less frozen), yet most of them consist of more than one word, and many of them can, at the same time, be derived from regular rules of syntax. They "differ from other conventionalized or frozen forms such as idioms or clichés mainly in that they are used to perform certain functions." (Nattinger & DeCarrico 1992, 36).

3.2. Development of meaning in single-word units.

As was suggested in the previous section, it has increasingly been argued that the development of the meaning of the lexicon is evolving from an organized set of interrelated lexical and grammatical elements and not so much from properties of single words in isolation. A lot of research has been done, however, in describing linguistic and semantic properties of lexical items consisting of single-word units. Two research traditions treating vocabulary and lexical items basically as single-word units will be accounted for in this section. The first of these, which is linguistically oriented, pertains to the role of core vocabulary in second-language learning and communication. The second related research tradition, which derives from psychology, is prototype theory and its applications to lexical acquisition.

Core vocabulary

The notion of core vocabulary has been a rather neglected topic among descriptive linguists. A related concept in other levels of language organization is the distinction between marked and unmarked features (see Lyons 1968, 79). In the domain of lexis, core items are generally those that are the most basic or simple (Carter 1987, 33). Before attempting to define coreness in vocabulary, it is important to start by recognizing the non-existence of a completely unitary and discrete core concept; there are rather several core vocabularies. The competent language user possesses sets of core vocabularies which are used for different registers. Through these sets, users of a language have recourse to the processes of simplification which are needed in order to "communicate in a basic and simple fashion in specific contexts, such as in relating to children, foreigners, etc." (Carter 1987, 33). All the different criteria for coreness imply the notion that core words, to a greater or lesser extent, possess generic rather than specific properties.

Carter (1987, 35-40) has listed the most important tests for core vocabulary. The first test he mentions is that of *syntactic substitution*. This test demonstrates that some words can substitute for others while some words are more dispensable. In the lexical set *gobble, dine, devour, eat, stuff, gormandize* each of the words could be defined by reference to 'eat' as a basic, semantic feature, but 'eat' cannot be accurately defined by using any of the other words in the set. Thus *eat* is the core word of this set and core words cannot easily be defined by non-core words of the same set.

Antonymy is another possible defining criterion for coreness. It is on the whole easier to find an antonym for core words than for non-core words. *Fat-thin* and *laugh-cry* are examples of pairs of antonyms. Thus it is by far more difficult to find precise antonyms for semantically related lexical items as *corpulent*, *emaciated*, *guffaw* and *sob*.

A third criterion for coreness is the *collocability* of a lexical item. Collocability describes the number of different words a single lexical item co-occurs with. The hypothesis is, says Carter, "that the more core a lexical item is, the more partnerships it will contract with other lexical items." (1987, 37). Thus he convincingly argues that *bright* is more core than *radiant*, and *gaudy* less core than *radiant* etc.

Referring to Stubbs (1986), Carter maintains that fairly simple tests for coreness can be used, for example by counting the number of entries a word has in a dictionary. The coreness of a word can thus be revealed "by the way it is 'extended' into compounds, idioms, multi-word verbs, phrasal verbs and so on" (Carter 1987, 38). This test, which is referred to under the heading *extension*, is apparently closely related to the previous one. He illustrates how the test works by referring to the verb *run* (e.g. *run-of-the-mill*, *run about*, *run up* (debts), *run down* (criticize), *on the run* etc.). Stubbs (1986) termed words with a large number of entries 'nuclear' words (cf. Viberg 1993).

Finally, Carter mentions *"freeness of culture"* as a defining criterion for coreness, i.e. "the more core a word is the less likely it is to be restricted to culture-specific uses." (1987, 39). Lexical borrowings are thus usually non-core words. Words for basic bodily functions, natural physical phenomena, size and shape etc., tend to be core components in a language.

Information relevant to coreness has also been reported from informant-based stylistic investigations. Stubbs (1982), for example, has found evidence that core words are extensively used when summarizing events and plots. This suggests that summaries are a genre in which it is perceived that a language without stylistic, rhetorical or evaluative overtones should be used. Other informant-based tests for coreness related to style, or more appropriately to the associative values of different words have been developed by Carter (1982). In the tests he reported on, informants were asked to rate words along scales representing

10-point clines. The scales were those revealed by Osgood (1976) as being most relevant to semantic space analysis - an *evaluation* scale and a *potency* scale and to these were added a *formality* scale.

Evaluation	POSITIVE	_______x_______	NEGATIVE
		1 10	
Potency	STRONG	_______x_______	WEAK
		1 10	
Formality	INFORMAL	_______x_______	FORMAL
		1 10	

Core words in a lexical set (e.g. *thin*) tended to come out around the mid-point in all three scales. Other words in the same lexical set, reported Carter, "converged less consistently, thus carrying greater associations and being less neutral." (1987, 41). He mentions *skinny* as a non-core word in the lexical set above.

Some additional characteristics of core words have been pointed out by Stubbs (1986). According to him, core words will seldom include loan-words, words with unstable pronunciations and spellings or foreign plurals and spellings as well as polymorphemic words.

As has been underlined by Carter, no single test on its own will normally "be a sufficiently systematic measure" and " core vocabulary itself has no unambiguously clear boundaries." (1987, 43):

> That is why it is more accurate to speak of clines and gradients and of *degrees of coreness* in words and why as a general rule it is claimed that, once the tests have been satisfactorily tested, the more tests a word passes the greater the degree of coreness it will have. (1987, 43)

A factor that is always crucial to vocabulary studies is that of *frequency* of occurrence. It has, not surprisingly, been found that a certain nuclear or core word in almost every case "will have greater frequency than non-nuclear words that are related to it ..." (Dixon 1971, 441). Carter has emphasized, however, that the use of frequency requires highly qualified researchers who should be aware of all the problems associated with frequency counts. Such problems are, for example, the lemmatization problem (how/whether different meanings of the same word-form are to be listed), inflections and derivatives of words and how they are to be 'counted' (e.g. *run/runner/running*, etc) and, finally, the problem of how to find an adequate 'operational' definition for a 'word' (i.e. do we mean 'word' or lexical item?)(see Carter 1987, 43-44).

Although some of these tests are informant-based, it should be borne in mind that they are all focused on linguistic data. An interesting potential of determining coreness in the future will be to develop more psycholinguistically oriented tests, e.g. by measuring the user's own perceptions of the relative 'utility' of lexical items (cf. Richards 1970).

Prototype theories

An issue related to that of core vocabularies is the alleged prototypical structure of lexical items. Prototype theories are, in fact, not derived from linguistics, but are based on the language user's and learner's own perceptions of what constitutes a concept and assume that conceptual categories are structured around central members of *best examples* (see Rosch 1973; Rosch and Mervis 1975). Other members of a particular category are less representative and more peripheral. Thus *robins* and *sparrows* were judged as the best examples of the category BIRD, while *chickens* and *ducks* were moderately good examples, and *penguins* and *bats* were rated as the worst examples (Maiguashca 1993, 117). It has been claimed that if one asks speakers of various languages about the best examples of a certain concept, a considerable degree of universality will emerge. It has been found that, although the boundaries of colour terms corresponding to 'red' vary considerably from language to language, the *best examples* of those terms will almost exactly coincide (see Grandy 1990, 201). In a number of experiments, Rosch (1973) found that subjects could consistently rate items with regard to their typicality in a category. This would be of little interest were it not for the fact that typicality (which comes in degrees, the prototype being most typical) correlated highly with a number of variables. In reaction time experiments, it was found that subjects took less time to categorize more typical members of a category than less typical ones. Similarly, it was found that typical items of a category were learned more quickly than less typical items (see Grandy 1990, 201).

As was suggested above, this new prototype theory did not come from linguistics, but rather from empirical research within the field of cognitive psychology. Cognitive scientists studied language, not *per se* , but for what the words and the meanings that speakers associate with them reveal about the mind, i.e. language is used "as a means to gain access to cognitive processes." (Maiguashca 1993, 115). 'Folk taxonomies' or popular classifications are of particular interest to cognitive psychologists because they reflect how the human brain categorizes and classifies objects and events in the real world into conceptual categories. How are the insights into prototype theory relevant to L2 acquisition or more specifically to the acquisition of the second language lexicon? As has been pointed out by Ijaz (1986), it is not possible for words to carry meanings by themselves, but only in relation to concepts:

> Words provide linguistic labels for concepts, and meanings constitute the associate links between concepts and words. A word's *meaning* refers to the total communicative value expressed by the word (Leech 1974). The instances to which a word's meaning can be applied in linguistic usage define the word's *semantic boundaries*. Within the total linguistic/semantic system of the language a word's semantic boundaries are defined in terms of different degrees of similarity and contrasts. (1986, 403)

It is proposed here that the kinds of questions that are asked by prototype theorists may make a contribution to our understanding of the mechanisms underlying lexical acquisition. As mentioned by Maiguashca (1993), the questions asked by these psychologists are: "What are the categories? How does a child acquire the category or concept of "bird," for example? What makes a bird a "bird"? Which are the features necessary for membership in a category?" (1993, 115). The extensive empirical research initiated by Eleanor Rosch resulted in a reinterpretation of the traditional notion of *categories*. Ever since the time of Aristotle, categories, or concepts were believed to be abstract entities which were fixed and had clear-cut, well-defined boundaries. Secondly, *all* members of a category were believed to share an identical set of properties. The whole notion of categories has been strongly challenged by Rosch. Starting from the psychological realities that are present in people's minds, she found that "a category can no longer be defined by a collection of features shared in equal number by all its members. Rather, it can be characterized by a very clear core, or centre, and a gradually fading periphery." (Maiguashca 1993, 118). According to the prototype model, a category is ultimately defined by the prototype. Less representative examples are shading away from the "core meaning" and (if we take the example of "bird) there will appear bird-like creatures that deviate more and more from the prototypes. Finally, we reach the undefined and "fuzzy" area where birds merge with bats, mammals and other kinds of animals.

The research presented so far has convincingly indicated the existence of a prototypical structure among conceptual categories. The previously presented work on core vocabulary (by Carter and others) shows striking similarities with the prototype theories. The main difference lies in the fact that while prototype theorists worked at the conceptual level and were using psychological data present in the speakers' minds, the researchers in core vocabulary started from linguistic concepts such as lexical sets and were utilizing predominantly formal, linguistic criteria in their analyses. Interestingly enough it has been shown that a prototypical structure may also characterize the meanings of singular lexical items. Thus Coleman and Kay (1981) have shown that a prototypical structure underlies the meanings of polysemous words. They suggest that the meaning of a given sense or a meaning feature of a word is defined by a given set of semantic dimensions which vary in weight. With related words, the meanings may differ from each other in that some of the semantic dimensions are differently weighted (Ijaz 1986, 404).

From what has been said so far, the differences between the related notions of core vocabulary and prototypical meanings of lexical items are beginning to emerge. A core word is the lexical representation of the best-fit member of a broader conceptual unit which is linguistically represented as a lexical set. The prototypical meaning of a singular lexical item, on the other hand, refers to the most central, the most basic of the meaning features in a polysemous word. Thus the word *give* is a core word in the lexical set *award, denote, donate, give, present*. This can easily be demonstrated by applying the tests for coreness described earlier. Take then the three sentences below.

(1) John gave the book to Mary.
(2) John gave Mary the book.
(3) Overwork gave Mary a heart attack.

In sentences 1 and 2, the prototypical meaning (i.e. the most central, basic meaning) of the lexical item *give* is used. In sentence 3, however, a non-prototypical (peripheral) meaning of the same lexical item is used (cf. Tanaka 1987, 68; Gass 1988, 102).

Coreness/prototypicalness and learnability/teachability

A pertinent question to be asked is what the relationship is between these two types of lexical items (i.e. core words and prototypical lexical items) and their learnability and teachability. Teachers were among the first to make attempts to apply basic core vocabularies for initial language learning purposes. Aspirations of this kind are reflected in works such as *Basic English* (Ogden 1930), and above all Michael West's *A General Service List* (West 1953). More recently, such word lists (including, where appropriate, a reduced syntax) have, for example, been compiled for "modern language learning in schools" (vanEk 1977), for an international "nuclear English" (Quirk 1982) and for university English (Xue & Nation 1984). According to Carter, the main criteria for vocabulary selection in West's and most of the other early word lists were that:

> (1) the frequency of each word in written English should be indicated
> (2) information should be provided about the relative prominences of the various meanings and uses of a word form. (1987, 163)

These criteria provide, according to Carter, "particularly useful guidance for teachers deciding which words and which meanings should be taught first." (1987, 163). In the hands of highly qualified teachers, these word lists could, no doubt, be extremely useful. The strivings for early control of vocabulary input could, however, bring with it a tendency to see vocabulary learning solely in quantitative terms. In addition, an extensive early emphasis on simple, basic words (and with syntax-based instruction) in a quantitative fashion, might lead to learning problems for learners who want to progress beyond the "ceiling of linguistic development" that Marton refers to, i.e. the fact that advanced learners, despite a continual exposure to the target language, show no marked improvement in their linguistic development (1977, 36). Blum and Levenston (1979), for example, claim that second language learners avoid phonologically, grammatically, or semantically complex words and prefer words which can be generalized to a wide range of contexts (i.e core words). Consider test item 7 from their data below:

> Although we ________ them many compliments, we received nothing but insults in return.
>
> a. gave b. sent c. dropped d. paid

Hebrew learners of English tended not to use the appropriate collocation "pay a compliment", but selected the more general term "give". This could be a result of the learners' use of some kind of "lexical simplification" strategy or "play it safe" strategy. Results of this kind might also partly be produced by the kind of instructional input learners have received. An overexposure to simplified, basic L2 elements (i.e. both lexical and syntactic) in more or less quantitative terms may thus give a distorted picture to the learner about the essential characteristics of the target language. As pointed out by Tanaka (1987), the teacher serves as a "sample-giver" to the learner, who serves as a "sample-taker". Therefore, the learner's understanding of a category would inevitably be a biased one, "if the teacher presents a biased sample lacking some characteristics of the category." (1987, 86).

A lot of recent research indicates that prototypical meanings of lexical items are central to L2 lexical development. L2 learners tend first to learn prototypical meanings of lexical items, non-prototypical meanings are learned later (cf. Hatch 1983, 70-73; Gass 1988, 101). Kellerman's experiments with various meanings of the Dutch word "breken" (English "break") showed that Dutch learners of English and German were most prone to transfer "core" meanings of "breken" to the target language (Kellerman 1978). Consider some of Kellerman's examples with "break" below (there existed acceptable, literal counterparts in Dutch).

(1) He broke his leg.
(2) She broke his heart.
(3) His fall was broken by a tree.

Most people would choose the first example as the most normal, the most prototypical meaning for *break*, and probably example 3 as the least normal meaning of *break*. Kellerman's search for the critical semantic features of "coreness" showed that there was no simple relationship between coreness and for instance the distinctions literal versus metaphorical, and concrete versus abstract. In a follow-up study by Jordens, preliminary results suggested that judgements on the degree of idiomaticity correlated even more strongly with transferability than did judgements of coreness (cf. Hatch 1983, 72-73).

Harley and Lou King (1989) found in their data on written compositions that English immersion students of French were making much more use than natives of certain verbs of motion "which have direct translation equivalents and which in general can be fitted more readily into semantic and syntactic frames that are common in English." (1989, 426). Examples of such verbs were *aller* and *venir* , which are the two highest frequency motion verbs in French. The broad general meaning and high frequency in French (i.e. prototypicalness or coreness) may no doubt have been one factor in their selection. But sometimes, in combination with prepositional phrases and adverbials, these verbs were "pressed into service by immersion students to express the more specific directional notions of, for intance, *sortir, rentrer,* and so forth, along the lines of English *come out, go in/home*" (e.g. *Madame Dupont* ***a venu*** *au balcon; Elle* ***est allé*** *dans la maison* ...)(1989, 427).

Tanaka (1987) examined Japanese college students' selective use of two *give* structures [NP NP] and [NP PP] within the framework of transfer and markedness. It was found that in dealing with a prototypical meaning of *give,* both structures were used, but with a slight emphasis on the [NP PP] structure (e.g. *John gave a bicycle to the boy*). However, when dealing with items deviating from the prototype, the [NP PP] structure, which was the unmarked, assimilable one, was clearly preferred (e.g. *John gave a punch/chance to the boy* versus *John gave the boy a punch/chance*)(see Tanaka 1987, 73).

In a recent paper Levenston (1990) compared the reactions of native speakers of English and advanced Hebrew learners of English as a second language to words with polysemous meanings. His data comprised compounds with a literal and metaphorical meaning (e.g. *landmark, milestone, moonshine*) and transitive verbs collocating with only a restricted number of nouns as object (e.g. *trigger a response, focus attention, command respect*). His conclusion was that when a word has both a basic literal meaning and a derived metaphorical meaning, learners are more likely than native speakers to provide the literal meaning as a first response.

The notions of coreness and prototypicality have in most studies been applied to lexical words (or content words).[13] Ijaz (1986), however, claims that the principle of prototypicality underlies also the acquisition of English grammatical words such as English spatial prepositions. She found, among advanced second-language learners of English, an extensive overuse of *on* and an underuse of *upon* and *onto* in contexts where *on* as well as other related prepositions (such as *upon, onto*) were appropriate responses. Of the six words she investigated, *on* was the only one that had a close translation equivalent across the English, German and Urdu languages (the two last mentioned were native languages of the major part of the participants in the study). She argues that the central meaning of *on* represents the prototypical meaning of the semantic category investigated. The universality of its semantic features made it more readily transferable " from the learners' native language to the target language than noncentral meanings and native-language constraints on its transfer were minimal." (Ijaz 1986, 442).

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[13] The distinction between lexical and grammatical words is discussed, for example, in Carter (1987). *Lexical words* (variously known as 'full words', or 'content words') include nouns, adjectives, verbs, and adverbs. They carry higher information and constitute an *open class* of words. *Grammatical words* (also known as 'functional words', 'functors', or 'empty words') comprise a finite or closed class of words, which includes pronouns, articles, auxiliary verbs, prepositions and conjunctions. (Carter 1987, 8).

These studies enable us to make some conclusions about the mechanisms of L1 influence underlying L2 acquisition in general and lexical acquisition in particular. It has repeatedly been argued that all L2 learners make the initial assumption of word-for word equivalence as a working hypothesis when dealing with the L2 (see Adjemian 1983; Blum-Kulka & Levenston 1983; Ijaz 1986; Harley & Lou King 1989). This hypothesis, which Ijaz termed the *semantic equivalence hypothesis* , "facilitates the acquisition of lexical meanings in the L2 in that it reduces it to the relabeling of concepts already learned in the L1."(Ijaz 1986, 446). As was pointed out by Kellerman (1979, 1983b), lexical elements that by the learner were perceived as language-neutral in L1 (which very often coincided with those having a core or prototypical meaning) were most readily transferred to the target language. A similar conclusion could be made from the data collected by Harley and Lou King (1989) who noted that their English learners of French tended to overuse verbs of motion which have direct translation equivalents and which more readily fitted the collocational and syntactic patterns that are more common in English. As a consequence, the lexical items that carried more peripheral meanings or were perceived as language-specific were not so easily transferred and even avoided.

The inclusion of the notion of prototypicality or coreness in second language acquisition theory is, however, not unproblematic. It rests on the assumption that polysemy exists, and as Durkin would have it, that it is "not an occasional phenomenon in language, but a fundamental and pervasive characteristic" (1986, 77). On the one hand, it has been argued that a word has slightly different meanings every time it is used. As has convincingly been shown by Visser, a word like "flowing" has somewhat varying meanings in the phrases "a flowing river", "flowing tears", and "flowing words". A word could, on the other hand, also "be said to have a basic, underlying meaning which remains constant for each use of that word." (Visser 1990, 12). As a matter of fact, some linguists do question the assumption that polysemous words have distinct, distinguishable senses. Ruhl, for instance, strongly argues that high-utility verbs like *take, come, give, go, break,* and *hit* in fact are monosemic and "are judged as polysemic by dictionaries and linguists because their essential, general meanings are confused with contextual, inferential meanings" (1978, 93).

What seems to have emerged from the discussions so far is that context, and hence collocation, plays an important role for word meaning. In recent years, it has been strongly argued that the meanings of words and sentences are typically acquired by negotiation through interaction between speakers or as Cowie succinctly puts it: "...created or interpreted by one speaker by cooperative adjustment to the assumptions and knowledge of another" (1988, 126). Yet, it is worth noting that the linguistic forms and meanings referred to as objects of negotiation have been "described" in the most general terms (e.g. 'vocabulary and structure', 'items', 'linguistic elements', 'units', 'meanings' etc.). Cowie argues that when such negotiable code elements are given more specific qualifications, "the precise scope and nature of negotiation will be found to vary with the qualifications introduced." (1988, 129). In the same article, Cowie (1988, 129) maintains that there are categories of lexical items that are strongly resistant to semantic negotiation. The terminology from a specialist field, for instance scientific terms from different sciences is a good example of this. Personal semantic adjustments of sense are of course rare with items such as *meningitis* and *peritonitis* from the field of medical pathology. Yet, Cowie maintains that the differences between technical and non-technical vocabulary (between 'terms' and 'words') are not clear-cut. This can be illustrated by taking the example *iron*, which on the one hand refers to the technical term for the most common metal (symbol *Fe*), but which also forms different idioms and non-scientific compounds (e.g. *rule with a rod of iron, iron-grey, Ironside* etc.).

Faced with evidence of the existence of words characterized as semantically stable, Cowie asked himself what types of words lent themselves to negotiation of meaning from one context to the other (1988, 129). Cowie distinguishes between two broad categories of lexical items. The first category, he says " consists of words with a small range of senses which mature speakers of the language perceive as distinct and firmly established." (1988, 129). The other category consists of such 'common-core' or 'heavy-duty' words as *top, bottom, give, take, bring, long, short* etc. Such items typically occur with high frequency, they cover a great range of topics (i.e. they are not restricted to language of specialist activities or groups), and possess a low specificity of reference. Typical features of these core items are no doubt semantic variability and creativity. Yet, Cowie argues that there is a stabilizing force running counter to this semantic variability. Consider such heavy-duty verbs as *bring* and *take* which tend to recur repeatedly in particular lexical contexts (i.e. take specific collocations). Some of these combinations which have constantly been re-used in a fixed form, have undergone radical changes of meaning and have thus become idiomatic (e.g *bring about*). The abundance of multi-word units of the above kind in language, and their recurrence in more or less unchanged form over long periods of time, lead Cowie to believe that stability is to be viewed as a "pervasive feature of normal vocabulary use." (1988, 131). The evidence of this kind of relatively stable elements in the learner's language (i.e. fixed expressions or conventionalized language) and their role in language acquisition will be discussed in the next section.

3.3. Fixed expressions and conventionalized language

Although the occurrence of fixed expressions or conventionalized forms (idioms, fomulae, prefabricated patterns, etc.) has long been noted in the speech of native speakers, and more recently in the speech of second language learners, these expressions have not until very recently found a place in theories of language. Most of the work that has been done so far in this area can be said to be lacking a coherent theoretical background; it shows more the results of individual interests of researchers. Yorio, who has chosen the very general term "conventionalized language" as a cover term for these phenomena, assigns the following special characteristics to these expressions:

> (1) They are thought to be learned as wholes, largely unanalyzed.
> (2) They cannot always be analyzed like other lexical items or syntactic strings. They are often exceptional or constrained syntactically, semantically or situationally.
> (3) They make language performance appear "native-like", hence the notion of "idiomaticity". (Yorio 1989, 56)

These forms were traditionally viewed as a marginal problem in theories of language and language acquisition. Many linguists took the view of Krashen and Scarcella (1978) who argued that "routines and patterns are essentially and fundamentally different from creative language." (1978, 298) and play a minor role in language acquisition. An increasing number of recent studies show, however, that L2 learning and processing employ various kinds of memorized, prefabricated units to a much greater extent than normally assumed (see Dechert 1983; Huebner 1983; Pawley & Syder 1983; Raupach 1984; Bolander 1989; Nattinger 1990). Many scholars are therefore beginning to believe that these prefabricated chunks are an integrated part of the main body of language and that they play a role in furthering the learner's target language competence.

Defining criteria for fixed expressions

Alexander prefers to call the forms referred to above "fixed expressions" and he defines them as "multi-word unit(s) which (have) to be learned as a whole, along with associated sociolinguistic, cultural and pragmatic rules of use." (1978, 178). The very term suggests a certain fixity in form and fixed expressions are, in fact, often seen as opposed to freely and creatively generated sentences. As a matter of fact, many of these "ready-made utterances" as they were called by Lyons (1968, 177), violated formal syntactic rules (e.g. *for good*). A description of fixed expressions in grammatical or syntactic terms comprises, in fact, one set of criteria by which these expressions can be delimited. As early as 1968, Lyons noted the non-canonical shape of some fixed expressions:

> Their internal structure, unlike that of genuine sentences, is not accounted for by means of rules which specify the permissible combinations of words. (Lyons 1968, 177)

More recently, Wood (1981) maintains that phrases may syntactically be described along a continuum with fully productive and canonical clusters at one end and structurally unique, and completely invariant clusters at the other end. This seems partly to coincide with what Alexander has called the lexical approach (1978, 176). He uses the term to designate that the syntagmatic relations that words enter into comprise more or less non-substitutable or fixed collocations.

The most popular criterion for judging frozenness of form is the semantic, which determines "whether a combination is fully 'compositional' or not, that is, whether a meaning of the collocation is fully predictable from the individual meanings of the words that compose it, ..." (Nattinger & DeCarrico 1992, 177). Bolinger, for example, applied basically semantic criteria in his characterization of idioms:

> groups of words with set meanings that cannot be calculated by adding up the separate meanings of the parts (1975, 100)

At least four additional criteria for fixed expressions have been suggested, namely (1) idiomaticity, (2) the cultural element, (3) learnability, and (4) function (Alexander 1978, 177). The first two criteria will be mentioned only cursorily, whereas learnability and function will be treated more thoroughly because of their relevance for the empirical part of this study.

Idiomaticity is undoubtedly a very commonly used criterion for fixed expressions. In fact, the defining criteria for idiomaticity imply a fusion of the syntactic and semantic criteria mentioned previously. Carter characterizes idioms as (1) non-substitutable or fixed collocations, (2) usually more than single word units, and (3) semantically opaque (1988, 58). As argued by Nattinger and DeCarrico, true idioms are totally non-compositional and non-productive, i.e. completely unpredictable in their meaning and form (e.g. *by and large*)(1992, 178).

The centrality of the cultural element in fixed expressions derives from the view that competence in a language includes what might be called socio-cultural competence. Alexander maintains that a lot of fixed expressions "are so closely tied up with extralinguistic details and events of social and cultural history" of the target language (e.g. popular sayings, proverbial expressions and catch phrases) that it becomes justified to argue "that the understanding of many fixed expressions entails more than simply knowledge of the English language or its associated lexicon." (1978, 179).

Alexander (1978) suggests learnability as an additional defining criterion for fixed expressions. In other words, do second and foreign language learners meet with specific learning problems when acquiring fixed expressions, and if so, why? As early as 1968, Lyons argued that "ready-made utterances" are, "learned as unanalysed wholes" (1968, 177). Similarly, Bolinger (1976) puts forward the view that structural linguistics (and later transformational grammar) has misjudged the extent to which the brain stores prefabricated linguistic units:

> We are just beginning to realize how much of the competence we hear so much about is carried in our heads as prefabs, with or without the interior vision of the assembled parts. (1976, 238)

Peters' (1983) studies on both first and second language acquisition are of special interest. She shows how young children first pick up multi-words from the speech to which they are exposed, and then after later segmentation retain them both as components and as wholes. Differences in the representation of formulaic expressions in the minds of first language learners and adult second language learners have been discussed by Huebner (1983). He argues that much of the difference lies in the fact that adults learning a second language "know a lot more about how languages work than does the child learning a first language." (1983, 44):

> First, they know that long utterances can be broken up into smaller units. Second, they know that under some circumstances, formulaic expressions are totally acceptable. Finally, when hearing an utterance often enough, they can guess at where to segment and also guess at assigning a function to the segment. (1983, 44)

Huebner proposes that while a first language learner extensively relies on his innate knowledge of language, a person acquiring a second language can additionally draw upon his knowledge of the first language for his hypotheses about the language he is acquiring (1983, 45).

Let us now consider the sub-group of fixed expressions which previously were termed idioms. It has generally been regarded as a difficult learning task to acquire collocations, especially the more idiomatic ones. One reason for the poor command of many target language idioms is no doubt the fact that they are so often closely tied up with the social and cultural history of the target language. A good mastery can be expected only from learners who have spent a very long period in the target language country. Certain types of idioms, such as phrasal verbs, are probably also perceived as difficult and peripheral by learners, because they have received a low priority in classroom activities and school grammars.

An interesting issue is also the question of whether collocations and idioms rightfully belong to the 'common core' or represent more peripheral features of language. After consulting Cowie and Mackin's *Oxford Dictionary of Current Idiomatic English* with respect to idiomatic expressions, Alexander argues that "the greater part of the entries warrant membership in the 'common core' of English" (1979, 186). This could possibly be explained by the fact that the notions expressed by phrasal verbs and related idioms often represent central parts in the linguistic system. This is not so surprising since a major part of the idioms are composed of idiom-prone lexemes. As suggested by the name, these are "lexemes or lexical items that enter as components into many fixed expressions, either as idioms or compound words - if we are not interpreting the latter as idioms as some linguists would." (Alexander 1985, 614). English examples of idiom-prone words, are among others, verbs such as *come, go, give, take, do, make, put,* etc. These words coincide with what have earlier been referred to as core words. As was argued in section 3.2 (p. 55), these kinds of heavy-duty words occur frequently and cover a wide range of topics and tend to receive much of their meaning from context (e.g. *John* ***gave*** *Peter a book* versus *Overwork* ***gave*** *Peter a heart attack*). When high-utility words of this kind enter as components into more stable combinations (i.e. idioms), they tend to receive a unitary and stable meaning which is not any more subservient to semantic negotiation.

Why are idioms then felt to be a difficult learning task by foreign language learners? One possible reason is that learners perceive these multi-words as language-specific. In fact, if similar idiomatic expressions occur in L1, they are perceived as language-specific also in L1. It should be borne in mind that the constituent parts of the idioms are, in isolation, words which are learned very early (because of their high frequency, coreness, universality etc.). When these high-utility, previously learned lexical items occur in new and uncommon combinations not permissible in L1, and carrying a new unique meaning, it is not surprising to find that they are felt to be a difficult learning task. This is perhaps why most L2 learners carefully avoid idiomatic expressions, and sound stilted in consequence. Learners tend to avoid idiomatic expressions also in cases where there exists a literal equivalent in their L1. According to Kellerman (1977) the feature of perceived language specificity in L1 (which is usually true of idioms) blocks the transfer to L2. Support for Kellerman's position was also found in a study by Sjöholm (1983) in which it was found that advanced learners of English tended to be sceptical about the transferability of idioms in Finnish and Swedish into English, even in cases where there was an exact cross-linguistic parallel, e.g. the English idiom *neither head nor tail* was not accepted by Finns although there is a clear analogue in Finnish.

Fixed expressions in a functional perspective

Function as a defining criterion for various kinds of fixed expressions (idioms, prefabricated patterns etc.) warrants a subsection of its own. Current research in discourse analysis, linguistic theory, and pragmatics has revealed that a considerable number of multi-word units of a lexical character are needed to perform specific speech functions. These language units, which might be characterized as social interactions and discourse devices of various kinds, constitute a regular part of language. This has led to a new emphasis on functionally driven grammars and their implications for language acquisition and language teaching. A recent attempt to describe language from a functional perspective has been made by Nattinger and DeCarrico (1992). Their description of language competence includes three main types of strings. The first type consists of lexico-grammatical strings generated by creative syntax and will result in free and non-conventionalized expressions. The second type of strings comprises prefabricated multi-word expressions (or lexical phrases) which are selected to play particular functions in particular contexts (cf. Nattinger & DeCarrico 1992, 11). But there are also strings of a third kind, namely those consisting of conventionalized multi-word expressions which have received a new and unitary meaning, but which have not been assigned any particular pragmatic functions (i.e. idioms).

Cowie has aptly captured the difference between the second and the third of the strings mentioned above. He proposes a division of conventionalized forms into two groups "according to the kind of meaning which their members convey and to the structural level at which they operate."(1988, 132). The first group is represented by such social formulae as *good morning* and *how are you*. The constituent parts of these expressions appear to have lost most of their referential meaning which results in the transference of the meaning to a new focus, i.e. the discourse functions of the expressions. "Thus *good morning* will be perceived as a greeting, and *how are you* as a polite enquiry after somebody's well-being" (Cowie 1988, 132). Cowie labels expressions of this kind which have meanings that are largely a reflection of the way they function in discourse (greetings, enquiries, invitations etc.) *formulae* or *functional idioms*. If the discourse meanings have stabilized, the expressions are *pragmatically* specialized (see Cowie 1988, 132).

The other major group mentioned by Cowie is represented by expressions such as *kick one's heels* and *pass the buck*, which instead of losing meaning have acquired a new meaning. These expressions have developed more or less unitary referential meanings as a result of their recurrent use as fixed units in grammatical constructions. These kinds of word combinations, which are more or less invariable in form and function as constituents of sentences (as objects, complements, adjuncts, etc.) were, by Cowie, termed *composites* (1988, 134). Expressions of this kind with a more or less stabilized meaning and form have become *semantically* specialized, or *idiomatic*. "They are lexical building-blocks comparable in their syntactic functions to nouns, adjectives, adverbs and verbs." (Cowie 1988, 134-35). Cowie's "composites" seem to be used in a similar sense to Lattey's "lexemic idioms", a term she used "to indicate those idioms that correlate readily with individual parts of speech." (1986, 219).

Many composites are truly idiomatic in the sense that the evolved meaning of the whole is no longer traceable to the original meanings of the parts (e.g. *kick the bucket, be on the wagon*). Other composites are still partially analysable. Not uncommonly composites which are a result of a figurative extension still preserve the original literal interpretation (e.g. *do a U-turn, mark time, turn up*). It is argued, however, that composites are more adequately described as a cline ranging from semantically opaque to comparatively transparent items (e.g. *to get round somebody*).

Nattinger and DeCarrico (1992) attempt to describe language as an interrelated system of lexis, grammar, and pragmatics. Their main unit of description, the *lexical phrase*, which seems to be similar to Cowie's *functional idiom*, comprises strings (or collocations) which have been assigned particular functions by pragmatic competence. They find it important, however, to make a clear distinction between ordinary syntactic strings, collocations, and lexical phrases. The ordinary *syntactic strings* "are those produced by general rules of syntax and considered regular, freshly created constructions." (1992, 37). These have traditionally been the concerns of most linguistic investigation. They define collocations as prefabricated phrases (e.g. *rancid butter*), whose constituent parts "co-occur with mutual expectancy greater than chance" (1992. 36). Yet the term is reserved only for collocations which are chunked sets of lexical items with no pragmatic function. And finally, *lexical phrases* are defined as collocations which *have* pragmatic functions (e.g. *how do you do, for example*). Nattinger and DeCarrico mention two types of lexical phrases:

> **a.** strings of specific (non-productive) lexical items, which allow no paradigmatic or syntagmatic substitution. These strings can be both canonical (conforming to a syntactic string) and non-canonical. Examples of the former would be *what on earth*, and *at any rate*; and of the latter, *by and large, as it were*;
>
> **b.** generalized (productive) frames (by far the largest group), consisting of strings of category symbols ... and specific lexical items, which have been assigned a pragmatic function. Examples would be '*a* + N [+time] + *ago*', and 'Modal + *you* + VP'. These generalized frames underlie specific lexical phrases, such as *a year ago, a month ago*, and *would you pass the salt?, could you shut the window?*, etc. (Nattinger & DeCarrico 1992, 37)

The Chomskyan model can, in the functional perspective put forward above, easily handle ordinary syntactic strings. The syntactic component (generally known as 'competence'), which is neutral as to speaker and hearer, and operates with no heed taken to phonological, semantic, pragmatic or cultural considerations, is capable of generating all grammatical strings of a language. Problems arise, however, when we are trying to incorporate pragmatic competence (which governs the use of lexical phrases) in the Chomskyan framework. In most early studies, pragmatics (defined as the study of language use in situations) was considered part of performance (Katz 1977; Smith & Wilson 1979). As early as 1979, however, Widdowson stated that there is reason to assume that the concept of linguistic competence must somehow be stretched to include the speaker's knowledge of how to use language in order to achieve meaning in context:

> It is clear that some of the features listed under performance are also systematic and form a part of the speaker's knowledge of his language, and should therefore be considered part of his competence ... (Widdowson 1979,12)

Recent research seems to take Widdowson's position of pragmatics as part of competence (Levinson 1983; Nattinger & DeCarrico 1992). Instead of equating pragmatics with performance factors, many researchers would like to see pragmatics "as a separate component that interacts with both semantics and syntax." (Nattinger & DeCarrico 1992, 4). In a recent publication, Widdowson suggests that competence has two components, knowledge and ability (1989, 132). His distinction is essentially the same as the one made by Nattinger and DeCarrico. They, like Widdowson, claim that grammatical competence (knowledge) and pragmatic competence (ability) are different in kind. Indeed Widdowson suggests that pragmatic competence is to be seen as "knowing a stock of partially pre-assembled patterns, formulaic frameworks, and a kit of rules, so to speak, and being able to apply the rules to make whatever adjustments are necessary to contextual demands" (1989, 135). Yet Nattinger and DeCarrico differ from Widdowson, who views grammatical and pragmatic competence as parallel entities, in that they are looking upon pragmatic competence "rather as a component which is positioned on a continuum somewhere between strict grammatical competence on the one hand, and performance factors such as processing, memory limitations, false starts etc. on the other." (1992, 8).

To sum up, some final comments on the classificatory considerations of conventionalized forms and collocations will be made. Early research in collocation seems to have assumed a qualitative, either-or distinction between conventionalized language and regularly generated language. Today, collocationists are beginning to view language as a continuum with prefabricated, completely invariant clusters at one end and freely combining morphemes at the other. In between we will find patterns which are "separated by infinite shadings of syntactic and semantic variation."(Nattinger & DeCarrico 1992, 177). Wood (1981) proposes a continuum model of the kind suggested above in which language is defined more precisely as four main patterns. At one end, she places the idiom, which is a fully non-compositional, non-productive, and truly frozen pattern of language (e.g. *by and large*). At the other end of the continuum, we find phrases like *see the river*, which is a fully compositional and productive string; its meaning is completely transparent, and as put by Nattinger and DeCarrico, "its form is the basis for an unlimited number of phrases." (1992, 177). Between these two extremes are phrases with various degrees of compositionality and productivity. Thus the frequently cited *kick the bucket* is less of an idiom than *hell for leather*, since the word *kick* in the sense of *die* exists "in a few other phrases such as *kick off* and *kick out*," (Nattinger & DeCarrico 1992, 177). Therefore, *kick the bucket* would be placed among the collocations which are a shade less frozen than idioms. Following Nattinger and DeCarrico, collocations would be defined as roughly predictable combinations of lexical items which permit some degree of compositionality or productivity (1992, 178). Yet collocations are restricted to certain specified lexical items and thus are nameable by words (e.g. *take umbrage*). A term that Mitchell (1971) has called 'colligations' may be characterized as generalized classes of collocations. Colligations comprise a combination of categories and distinct lexical items and are as rule less frozen than ordinary collocations. According to Mitchell, "colligations involve the use of word-classes to name the collocational class. Colligational labels underline the necessary admixture of 'formal' and 'functional' as in the case of ('motive' verb + 'directional' particle) [describing 'tear/lope/race etc. ... up/along/across]" (Mitchell 1971, 53). Nattinger and DeCarrico refer to the phrase *off with his head* as an example of a colligation. It displays only a limited degree of productivity (e.g. *down with the king, away with all X*), but always contains the string 'Directional Particle + *with* + NP' (1992, 177). However, these strings are all semantically fairly transparent. When phrases are not restricted to specific lexical items and tend to be more described in terms of word-classes, the more they approach the freely created syntax. Language patterns could thus be placed along a continuum as represented in Figure 3.

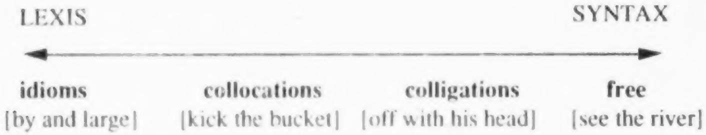

Figure 3. *Lexico-grammatical units positioned along a continuum from totally frozen to totally free combinations (adapted from Wood 1981).*

As it seems that idioms and prefabricated phrases are a pervasive part of the overall language system, it is hypothesized that they also may play a role in the process of.language acquisition. These questions will be dealt with in some detail in the next subsection. The special focus of this study will be on the acquisition of English phrasal verbs, which have usually been described as a combination of a verb and a particle. The issue of how phrasal verbs fit the descriptive framework put forward above will be discussed mainly in Chapter four.

3.4. Towards a characterization of instructed second language learning

As was argued in Chapter two, most of the early theories of second language acquisition were linguistic in nature, and several of them were limited to sentences, syntax and morphology. In the late seventies and early eighties, however, a movement from a structuralist stance to a processualist stance could be discerned in theoretical linguistics. Such terms as 'proceduralism', 'procedural linguistics' and 'process linguistics' were frequently used. As was early pointed out by Enkvist, processually-oriented discourse linguistics was a discipline bent on expansion. From an extreme restrictionist view in which linguists insisted on describing the structure of language as a code (i.e. *langue* or *competence*), the processualists expanded the territory of linguistics to cover human cognition and interaction thus embracing *parole* or *performance* (Enkvist 1981). Thus, says Enkvist, a tie could be found to exist between process linguistics and communicative competence. In the same vein, Lehtonen and Sajavaara proclaim that the recent increasing emphasis on communicative approaches to language teaching has "brought about a simultaneous shift from declarative knowledge over to procedural knowledge, which means, in the present context, dynamic linguistic and communicative processing being seen as a central area subjected to analysis instead of static structures of grammar" (1983, 81). What they say is that by considering only issues of so-called competence and by neglecting on-line performance, we limit ourselves unnecessarily. Instead they speak in support of "true performance grammars, which are based on natural language use and which rely on the processes of speech production and reception" (1983, 83). Spolsky argues that statements like the above reflect the differing claims of a competence and a processing model:

> I therefore make again the point that a competence model makes no claim about processing; it aims to present a description of a set of facts about language that will account for observable utterances without postulating a method of storage, or production, or comprehension of those utterances. (Spolsky 1989, 120)

What kind of theoretical framework should then guide and shape classroom activity? Many feel that the subject of language teaching is indeed this abstract notion of language "competence" or some kind of "formal correctness" and consequently they look to "theoretical grammars of linguistic competence for ideas about what to teach." (Nattinger 1990, 198). Nattinger (1990) argues, however, that the goal of language teaching is not to teach abstract rules of competence, but to get students to comprehend and produce particular languages successfully and meaningfully in particular situations. There is no guarantee that the teaching of the underlying system of language will lead to this goal. Therefore an increasing number of researchers in second language acquisition believe that it would be better for teachers to look towards theories of language use and descriptions of language performance for guidance in practical language teaching (see Lehtonen & Sajavaara 1983, 82; Nattinger 1990, 199). Many of the performance grammars, which are usually derived from the discipline of psycholinguistics and cognitive psychology "do not treat performance autonomously, but explore it only as it correlates with competence." (Nattinger 1990, 199). More recently, however, many studies in second language acquisition have abandoned competence models in its narrow sense and are instead looking at how language develops for use in a social interaction perspective. As Nattinger puts it "[t]his research pays more attention to *how* something is learned rather than to *what* is learned, and thus examines the path to, rather than the goal of, language acquisition" (1990, 199). These models not only ask *how* learners acquire a language, but also ask *why* they learn it. Not surprisingly, research shows that the learning of a language is part of a social interaction where learners have something they wish to say, and the answer to the *why* has thus to do with social motivation (cf. Klein 1990, 220; Spolsky 1989, 26).

Competence and second language acquisition

The first of Klein's three necessary components of a theory of second-language acquisition (cf. 2.2, p. 16) was that it should contain a specific cognitive capacity (1990, 220). The aim of this subsection is to point at some features characterizing this language ability and more specifically to attempt to indicate how it is related to second language acquisition. Although this cognitive capacity may not be specific to language processing, it is a fact that second-language learning, as all learning, is constrained by the social context in which it takes place (cf. Fig. 2, p. 32). The study undertaken here is roughly speaking restricted to second-language learning in a classroom context. It is argued here that the classical dichotomy between competence and performance is unnecessarily severe and exclusive as a basis for descriptions focused on language in use. In language descriptions applicable to classroom conditions we need to consider also the somewhat fuzzy, but still orderly area of linguistic ability situated between the ideal syntactic competence and the somewhat erratically performed speech (performance). This area of linguistic competence is, according to many scholars, manifested in the learners' use of various prefabricated forms such as lexical phrases, idioms, collocations.

It has been argued that pragmatic competence interacts with the syntax and the lexicon to select particular prefabricated forms and lexical phrases. Nattinger and DeCarrico have illustrated these interrelationships with the example *this is a piece of cake*. This phrase is, on the one hand, an ordinary declarative statement, but can also be interpreted as a lexical phrase which has been assigned the pragmatic function of expressing evaluation (something is done with ease). The expression may occur in a few other permissible syntactic inflections and expansions such as *this is/it's going to be/will be a piece of cake*. But if the elements in this expression are freely varied according to general phrase structure or transformational rules, the result could be expressions such as *this is two pieces of cake, this had been a piece of cake*. With this type of variation, the function is entirely lost. Yet these expressions are syntactically grammatical, but they are not linguistically permissible (Nattinger & DeCarrico 1992, 14).

Today, many scholars are beginning to suspect that prefabricated patterns are not isolated from, or peripheral to the creative rule-forming process, but may play a role in its development (Hakuta 1974; Wong-Fillmore 1976; Peters 1983). Some suggestions about how prefabricated patterns are related to the process of syntactic processing have recently been made. Returning to the example above, it is claimed that the lexical phrase *this is a piece of cake* is initially used and memorized holophrastically in certain set situations. As learners become aware of similar phrases like *this is a car, this is a good thing* in other contexts, they begin to analyze the phrases as having a pattern with a movable component *this is a* + NP. After having noticed such movable elements in prefabricated patterns, "they begin to analyze chunks into their separate pieces, and work their way to the actual rules of syntax." (Nattinger & DeCarrico 1992, 25). The learners' encounter with prefabricated patterns in various contexts will lead not only to the acquisition of general syntactic rules, but also to a knowledge of what syntactic variability is allowed to these form/function units. Nattinger and DeCarrico argue that this knowledge is part of pragmatic competence, and this might also explain not only why impermissible choices result in linguistically ill-formed expressions, "but also why the associated pragmatic function is lost." (1992, 16). In conclusion, language acquisition seems rather to be functionally or lexically driven than syntactically driven (cf. Klein 1990).

One of the first to suggest that these chunks, after all, could be central to the creative rule-forming process was Hakuta. He argued that the chunks were not only used as memorized formulas (functioning as fluency devices and the like), but served as raw material for later segmentation and analysis in the process of developing creative rules of syntax (Hakuta 1974, 289). Hakuta's view was later affirmed by Wong-Fillmore's research. Wong-Fillmore found in her natural language data from Spanish-speaking learners of English that a major part of their speech consisted of prefabricated language. She, like Hakuta, believes that routines and patterns learnt in the language acquisition process result in creative language (Wong-Fillmore 1976, 640). Peters, in her study of both first and second language acquisition, argues that children first acquire language as unanalyzed units, then these formulaic frames are analyzed "into the conventional lexical items and syntactic patterns of the language." (Peters 1983, 13).

In early research, prefabricated language was believed to be distinct from, and somewhat peripheral to the main body of language, which was seen as the creative product of systematic rules of competence (Brown 1974; Clark 1974). Many early researchers attributed the great frequency of these chunks in the learners' speech to the relevance of imitation and memorization in learning a language. The view that routines and patterns play only a minor role in language acquisition is still held by many researchers. Krashen and Scarcella, for instance, argue that the prefabricated forms found in the learners' speech are different from the creative construction process which uniquely generates syntactic rules. They believe that these chunks are useful means of establishing and maintaining relations, but do not serve a major role in language acquisition (Krashen & Scarcella 1978, 295). They found the data collected by Wong-Fillmore important, but suggest that two factors created her results. First, they argue that the children in her study acted under a great deal of pressure to produce language that by far exceeded their present linguistic competence, and second, the language they were exposed to was exceptionally routine and predictable. Krashen and Scarcella claim that these two factors are absent in most language acquisition situations (1978, 295).

Performance factors and second language acquisition

The relation between competence and second language acquisition was briefly treated in the last subsection. Competence was, however, used in its broadest sense encompassing also pragmatic competence in the way suggested by Widdowson (1989) and Nattinger and DeCarrico (1992). This subsection will briefly deal with factors pertaining to performance models of language processing, i.e. it will attempt to describe the psychological categories and processes underlying the use and development of language. Important issues will then be to examine how languages are perceived, stored, remembered, and produced. Are there then any correlates to routine language and "chunking procedures" in psychological studies on the storage and retrieval capacity of memory? Researchers who are formulating performance models of language processing seem to agree that learners have a vast storage capacity of memory, but the time and speed for processing those memories are limited. Therefore learners must learn to take shortcuts for making efficient use of the processing time (Crick 1979, 219).

Psycholinguistic research has sought to characterize the mechanisms underlying language processing. Cruttenden argues that language learning at all levels takes place in two stages: a stage of 'item learning' and a stage of 'system learning' (Cruttenden 1981). Evidence shows that children's first language acquisition initially takes place on an item by item basis:

> A child has to learn individual items by straightforward imitation to allow his mind to worry at and play with (like a dog with a bone), such individual items in order to extract the system from them (like the marrow from the bones). He will begin to extract the system when he recognizes some part of the item being used in another utterance

> (phonology, intonation, morphology, and syntax) or the whole item being used in different situations or with different referents (semantics). (Cruttenden 1981, 87)

Thus it seems likely that some form of item-learning is an essential prerequisite to all types of system-learning (Cruttenden 1981). Thus children may first acquire the inflected form of a morpheme holophrastically as a single item (e.g. *daddy's*). By being repeatedly exposed to pairs of inflected and uninflected forms (like *daddy's - daddy*), children later learn to segment 'morphological chunks' into their constituent parts and attach meaning to the inflection. Evidence of item-learning is displayed especially in young children's frequent use of prefabricated chunks. Nattinger and DeCarrico believe that there is no reason to think that adult learners would learn a second language completely differently. Because language learning in many important respects is the same for adults and children, they believe that "it is likely that an adult learner would also find prefabricated language an efficient way to begin to acquire a new language system." (Nattinger & DeCarrico 1992, 27). Some recent research shows that formulaic speech is indeed frequent even in adult second learners' speech acquired in a more tutored setting (Raupach 1984; Bolander 1989).

Contrary to Krashen and Scarcella's claims in the last section, it seems that the language that children and adults are exposed to in everyday communication *is* very routine and predictable. Likewise, it is argued that it is a pervasive feature in language acquisition among children as well as adults to feel pressure to produce more than their competence permits them to do (cf. Clark 1974). As argued by Nattinger and DeCarrico, learners would otherwise "quickly become discouraged when they are able to express little of what they wish." (Nattinger & DeCarrico 1992, 27). This has tellingly been expressed by Hakuta:

> I think it is also important to note that, if learners always have to wait until they acquire the constructional rules for forming an utterance before using it, then they may run into serious motivational difficulties in learning the language, for the functions that can be expressed (especially in the initial stages of learning) would be severely limited. (Hakuta 1976, 333)

Psycholinguistic research has shown that the units of language acquisition as they are represented in the mind of the learner may be different from those used in linguistic descriptions. It has earlier been suggested that the units of language acquired by children very often consist of more than one (adult) word or morpheme (i.e. chunk). To the child learner there exist no differences between minimal units and chunks, but they are all units and stored in the lexicon and retrieved as such (Peters 1983, 89). What has also been questioned by psycholinguistically oriented researchers is the traditionally held view of second language acquisition as a linear, cumulative and step-by-step process (Huebner 1983; Lightbown 1985; McLaughlin 1987). In a number of studies in both first and second language acquisition the performance is characterized by backsliding and loss of forms that seemingly were mastered.

Cognitive psychologists have sought to explain the discontinuous character of language acquisition. In many studies the theoretical concept of *restructuring* has been introduced to explain these discontinuities.[14] Karmiloff-Smith (1986) argues that learning a language inevitably goes beyond mere automaticity. A crucial feature in language learning is a constant modification of organizational structures. By and large, her approach is the same as the one suggested by Rumelhart and Norman. They described restructuring as a process that occurs "when new structures are devised for interpreting new information and imposing a new organization on that already stored." (Rumelhart & Norman 1978, 39). Restructuring implies the replacement of a category of interpretation (or schema) by a more efficient one. Therefore restructuring has been proposed to be an important factor explaining increased automaticity; practice per se, especially out of meaningful social context is not enough (cf. Cheng 1985; McLeod & McLaughlin 1986). Pike's notion "nucleation" seems to come very close to what contemporary psychologists imply by restructuring:

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[14] Corder (1978) used the term restructuring somewhat differently. To him a process of progressive restructuring implied that the learner is "engaged in a process of progressively adjusting his mother tongue system to approximate it ever more closely to the target." (Corder 1978, 75).

> Some persons have memorized long lists of vocabulary items, and even extensive rules of grammar, without being able to speak the language. One might say that their learning is ... without nucleation. That is, though they have many of the elements necessary for a conversation, they cannot in fact handle these. Specifically, they lack the *structure*, the "crystallization" - which gives a characteristic patterning to sentences and conversations. (Pike 1960, 292)

Rumelhart and Norman mention two other processes of learning, viz. *accretion*, in which information is simply incremented by a new set of facts without any structural changes in the information processing system itself, and *tuning*, in which there are gradual modifications in the categories (i.e. schemata) used for interpreting new information (1978, 39).

Whereas Rumelhart and Norman essentially argue that there are different kinds of learning (one of which is restructuring), Karmiloff-Smith (1986) argues that children's and adults' learning are to be described as a unitary process comprising three successive phases. Phase 1, which corresponds to accretion in Rumelhart and Norman's terms, involves "a process whereby controlled, attention-demanding operations become automatic through practice." (McLaughlin 1990, 125). This phase, which is data-driven, results in an increasing number of information chunks which are compiled into an automated procedure. Basically, at this stage, the tasks are mastered without any attempts at an overall organization. Phase 2 is the stage when the learner's behaviour is dominated by 'organization-oriented procedures', which are the results of the learner's attempts to unify, simplify, and gain control over his internal representation of knowledge. This phase is guided by internally-generated, top-down processes which will result in a restructuring of the internal knowledge structures. The third phase involves an integration of the bottom-up processes of phase 1 and the top-down processes of phase 2. This phase implies that the work of restructuring of phase 2 has become consolidated and the learner has achieved near-native competence in L2 (cf. Cruttenden 1981; Ringbom 1983; McLaughlin 1990).

Returning now to to the three main views of how to categorize learning put forward above, it can be noted that Rumelhart and Norman (1978) argued for three qualitatively different kinds of learning, whereas Cruttenden (1981) and Karmiloff-Smith (1986) saw learning as a unitary process of successive stages. Karmiloff-Smith has additionally defined her three phases of learning with respect to what kind of process type has been applied or whetner the processes are data-driven or internally driven. As can be seen in Figure 4 below there are some differences between the views, but the similarities are also striking.

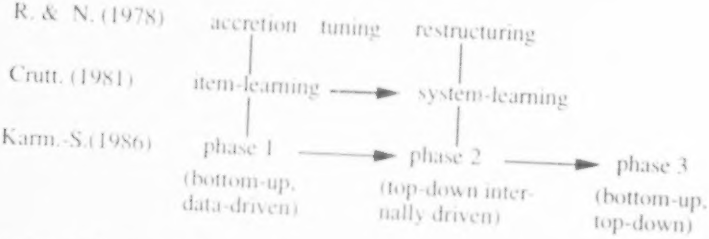

Figure 4. *Comparison between three views of how to categorize learning.*

Several mechanisms have been proposed to account for the transitional shifts of the learners' internal representations of knowledge. Basically, the developmental shift seems to be a transition from exemplar-based representations to more rule-based representations (see McLaughlin 1990, 118). Bowerman (1987) proposes two types of mechanisms underlying the process of restructuring, i.e. those that are "off-line" in the sense that they occur without the learner's awareness and those requiring "on-line" attention (cf. McLaughlin 1990, 119). Another feature that has been alleged to be important for the understanding of the mechanisms of restructuring is the relative speed of the shifts in the learner's internal representations. Some researchers stress the *suddenness* of these shifts, whereas others note that the changes are subtle and gradual and as expressed by McLaughlin, "that evidence for restructuring might be lost sight of if too much emphasis is put upon abruptness."(1990, 120).

The role of L1 in U-shaped L2 learning

It has been argued that the process of restructuring may explain the occurrence of certain discontinuities in linguistic development. As has recently been suggested by many linguists, language acquisition is not believed to be characterized as a smooth, stage-by-stage growth, "an incremental process of adding on rules and items", but rather as a "process of reanalysis and consequent restructuring" (Sharwood Smith & Kellerman 1989, 220). A good example of these discontinuities is the appearance, disappearance, and reappearance of target forms in learner productions that have been called "U-shaped" behaviour. Kellerman (1985) describes U-shaped behaviour as systematic linguistic behaviour over time which is realized in three distinct stages. In the first stage the learner (child or adult, L1 or L2) displays error-free performance in some limited linguistic domain, i.e. the learner's performance accords with the target norm. In the second stage the performance deviates from the target, and hence also from performance in stage 1. The third stage, says Kellerman, "marks a return to performance which matches the norm, as was also the case in stage 1." (1985, 345).

In areas other than L2-learning, U-shaped behaviour has often been explained as representing progressive cognitive change from a global, non-analyzable reasoning (stage 1) to one which is more differentiated and rule-based (stage 2), and finally developing to a reasoning indicating a separation and coordination of rules (Strauss & Stein 1978, 330). Ervin's data about children's acquisition of the morphological system of English verbs and nouns may serve as an example of U-shaped behaviour (in L1 acquisition). Ervin (1964) noted that very young children produced correctly such forms as *went, books, boxes, feet* (stage 1), but later (stage 2) with the onset of systematic behaviour, they produced such regularized (but incorrect) forms as *goed, bookses, foots*. At stage 3, the irregular forms are relearned, but this time as a list of exceptions to the general rule (cf. Sharwood Smith & Kellerman 1989). It has been argued, however, that the apparent decline in the linguistic performance at stage 2 is, in fact, indicative of a "cognitive advance" (see Strauss & Stein 1978; Kellerman 1985; Sharwood Smith & Kellerman 1989). Further evidence of U-shaped behaviour in L1 acquisition has been provided by Bowerman (1982) who studied the acquisition of causative verbs by children. Similarly, Karmiloff-Smith (1979) noted a U-shaped development in her study of the acquisition of determiners and reference by French children.

So far there has been very little theoretical discussion of U-shaped behaviour in second language acquisition literature. One of the first to refer to this phenomenon in a L2 acquisition context was Huebner (he used the term "backtracking"), who found that a Hmong learner of English in the acquisition of the function of the definite article used *da* (= the) ungrammatically more frequently halfway through the study than at the initial stages (Huebner 1983, 208). Another of the early studies of U-shaped behaviour is the one by Wode, Bahns, Bedey, and Frank (1978) where the initial appearance of correct "premature forms" like *feet, sheep, fish* is discussed. More recent theoretical discussions of U-shaped behaviour in second language acquisition are found in Kellerman (1985) and especially in Sharwood Smith and Kellerman (1989). As suggested by Sharwood Smith and Kellerman (1989), U-shaped behaviour seems to be related to those studies that deal with chunk learning, "where learners correctly and appropriately produce a number of fixed utterances which, from the observer/analyst's point of view, exhibit a level of grammatical complexity that is clearly beyond the state of knowledge as evidenced by the learner's output in toto." (1989, 225). These chunks or prefabricated patterns are the result of holistic learning, as is indicated by the fact that they are supplanted by less complex related structures that are more productive at later stages of learning. Whether these chunks should be seen as isolated or peripheral to the creative rule-forming process of L2 or play a role in its development is still an unresolved question (cf. p. 71).

Sharwood Smith and Kellerman (1989) demonstrate the critical role played by cross-linguistic influence in the manifestation of U-shaped behaviour. Their data are drawn from three separate studies dealing respectively with "(a) the transitive/intransitive verb *break*; (b) the marking of hypotheticalness in the protasis of conditionals; and (c) the acceptability of L1-like idiomatic expressions in the L2." (1989, 227). The aim of their study was, in all three cases, to tap the underlying knowledge, i.e. to look beyond performance data to more theoretical notions of what constitutes transferable L1 features that can become part of the learner's interlanguage competence. The first of the studies refers to Kellerman's by now well-known reports on Dutch learners' acceptances of the translations of the Dutch-based transitive and intransitive verb *breken*. His subjects, who were learners of English aged 13 -23, displayed no difference in performance with transitive and intransitive forms up to the age of 17, but at the age of 18, which was the last year at high school, there was a marked change. From this age there was an increasing decline in the acceptance of intransitive forms of *break* for three successive years, but after this there was again a rise for the most advanced group. Sharwood Smith and Kellerman (1989) contend that this U-shaped curve for intransitive *break* represents a "cognitive advance". They believe that the deep drop in the performance is to be explained as "the development of sensitivity to an important pragmatic distinction between causative and noncausative meanings of a single lexical item." (Sharwood Smith & Kellerman 1989, 228). Thus *break* is primarily seen as a causative verb, and consquently noncausative *break* is seen as pragmatically marked. They argue that a sentence like *the cup broke* is seen as odd, especially in isolation, "since it requires us to imagine a context in which a cup could break by itself." (Sharwood Smith & Kellerman 1989, 229).

The drop in performance in the U-shaped curve is created as a result of advanced learners' perception of new semantic and pragmatic distinctions. Learners are then either attempting to assign distinct surface forms to these newly discovered distinctions or simply trying to avoid using one of these semantically or pragmatically specialized forms (which sometimes happens to coincide with the target form). As suggested by Sharwood Smith and Kellerman, the motivation for doing this must be "internally generated, although doubtlessly encouraged by the formal teaching these learners are receiving." (1989, 230). Younger learners who had had less instruction and must be considered less metalinguistically sophisticated, are believed to be more surface-oriented in their concerns, worrying primarily about problems of relexifications of L1 items. With learners of closely related languages, this will lead to a false picture, i.e. that of relatively young learners being superior to learners that generally speaking are more proficient.

The second study in which the U-shaped curve has been evident concerns the structure of conditionals in Dutch and in English produced by Dutch learners. In Dutch, a *modal auxiliary + infinitive* is allowed in both protasis (the if-clause) and apodosis (the consequent clause), but past forms in either or both clauses are also acceptable in Dutch. Research by Kellerman, Wekker and Nieuwint (1982) indicates, however, that young school-age learners of English initially produce more target forms than do more proficient university learners. "Once again" say Sharwood Smith and Kellerman, " it appears as if both the least and the most proficient learners perform best." (1989, 231). A closer look at the data shows, however, that the younger learners are, in fact, producing Dutch-based hypothetical structures in their English, which leads to a great number of correct target structures, but also to a number of nontarget sentences. According to Sharwood Smith and Kellerman (1989), more advanced learners restrict themselves to just two structures, namely the correct one (*if he came, we would go out*) and the *if ... would ... would* one (**if he would come, we would go out*). The latter structure (i.e. the incorrect one) predominates among intermediate learners (the last year of high school and the first two years of university). Sharwood Smith and Kellerman claim that the predominance of the *if ... would ... would* structure is related to the learners' sensitization of the notion of hypotheticalness (1989, 231).

The third case referred to by Sharwood Smith and Kellerman (1989) is Jordens' (1977) study of Dutch learners' treatment of German idiomatic expressions. Jordens' study revealed that first-year university students tended to accept Dutch-like idiomatic expressions, whereas second-year students tended to reject these expressions. Third-year students could, however, on the whole distinguish between Dutch-like expressions that were possible in German and those that were not. Sharwoood Smith and Kellerman (1989) argue that Jordens' stage 2 (i.e. second-year students) seems to indicate that learners have become "sensitive to the mismatch between the literal meanings and the figurative meanings of idiomatic expressions;" and their conclusion is therefore as follows: "the more semantically opaque the expression in Dutch, the more likely its translation equivalent is to be rejected in the L2." (1989, 232). At stage 1 (i.e. first-year students), learners are not concerned with the distinction between semantic opacity or transparency of idiomatic expressions, but assume that Dutch and German as particularly close languages will probably share idioms as well.

To sum up, it seems as if the L1 structure appears to serve as a source of prediction about the form in the L2 in the first stage of the U-shaped curve in all the three related cases. The learner is probably not fully aware of all the semantic nuances of the target structure at this stage, and the knowledge structure is probably represented holistically in the learner's mind. An initial hypothesis for beginning learners seems to be one of word-for-word equivalence between L1 and L2 (cf. Corder 1967, 168; Blum-Kulka & Levenston 1983, 132; Ijaz 1986, 446).[15] In other words, it can be assumed that learners are not yet sensitized to such semantic notions as causativity, hypotheticalness and metaphor at stage 1, and learners are unable to express these notions in other languages. If learners, so to speak, lose confidence in their initial assumption of parallels between L1 and L2, "this leads to a concern that these notions should be expressed very explicitly in the target language." (Sharwood Smith & Kellerman 1989, 232). Thus, if L1 does not mark what for the learner has become important semantic distinctions in surface form, then the learner seemingly may perform less well by producing new forms which deviate from the target norm (and from L1). As has been stated by Sharwood Smith and Kellerman, the relationship between L1 and L2 is a very crucial element in this interpretation (1989, 233).

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[15] A phenomenon related to the one above is the foreign language learners' tendency to overuse the most common translation equivalent of an L1 lexical item. Arabski, who called these items *primary counterparts*, argues that this phenomenon occurs when an L1 lexeme has two or more translation equivalents in L2. Since in the majority of cases Polish *mieć* translates as *have*, learners will acquire *have* as a primary counterpart of *mieć*. However, because Polish *mieć* in certain contexts can be rendered by *to be* or *to get* in English, erroneous utterances like **I would like to **have** twenty years* or **I would like to **have** (instead of **get**) this job* will occur (Arabski 1979, 34-35).

It also seems that the U-shaped behaviour documented in L2 acquisition is somehow related to avoidance behaviour. Because "avoidance" behaviour in second language acquisition has been used to mean different things, the very term needs some clarification. One important clarification is that non-use of a target language structure does not necessarily imply that the structure is avoided. In Schachter's original theory of avoidance it was postulated that language difference led to avoidance (Schachter 1974). Some years later, Kleinmann (1977) maintained that avoidance of a linguistic feature implied a choice between options. In a recent publication, however, Seliger (1989) argues that avoidance is only one manifestation of non-use of a structure, non-use may also result from "differences between L1 and L2, ignorance or presystematic use of a not yet fully acquired form" (1989, 32). Seliger proposes that true avoidance can be claimed only if the following three conditions are satisfied, i.e. (1) that the learner can demonstrate knowledge of the avoided language form, (2) that the obligatory environments for use of the form can be identified by native speakers, and (3) that there exists in L1 a form that basically requires the same rules for realization as the (avoided) form in L2. According to Seliger's definition, true avoidance must assume contrastive analysis congruence or potential for positive transfer (i.e. language similarity). The conclusion to be drawn from Kleinmann's and Seliger's reasoning is that it is logically difficult to term as avoidance the non-use of a form which the learners have incomplete or no knowledge about, either from their L2 learning experience or their L1 (cf. Kamimoto, Shimura & Kellerman 1992). It is argued here that the U-shaped behaviour attested in L2 acquisition (especially in tutored learning) may sometimes be a result of avoidance. In a way, U-shaped behaviour could be said to be a result of a perceived difference or similarity between L1 and L2 (cf Kellerman 1979).

The nature of native and non-native language influence.

In the last subsection it was argued that crosslinguistic influence plays a role in the manifestation of U-shaped L2-learning. The focus of this subsection will be on the nature of crosslinguistic influence among learners in a multilingual situation. Special attention will, however, be paid to native and non-native language influence in lexical acquisition. The term crosslinguistic influence is here used as a broad cover term for such phenomena as 'transfer', interference', 'avoidance', and 'borrowing' (cf. Sharwood Smith & Kellerman 1986, 1).

A view held by many contemporary linguists and socio-linguists is that the normal state of affairs in most countries is a multilingual (or bilingual) situation of some kind; in few countries do you find children who have been confronted with one language only. Finland, where the data for this study were collected, is no exception. The position of multi-competence among L2 users has been the concern of Cook in some recently published papers (1991, 1992, 1993). The problem addressed by Cook is whether bilingual speakers have two independent language systems (called *separatist multi-competence* by Grosjean 1989) or whether they possess a single merged system (called *holistic or wholistic multi-competence* by Cook 1992, 1993). These two terms bear some resemblance to the views formerly encountered as *coordinate bilingualism* and *compound bilingualism* (cf. Albert & Obler 1978). Cook argues that multicompetence indeed might be a distinct state of mind from monocompetence:

> The knowledge of the L1 and L2 are different in L2 users; metalinguistic awareness is improved; cognitive processes are different. Many of these differences are not immediately apparent; nevertheless, they consistently add up to the conclusion that people with multicompetence are not simply equivalent to two monolinguals but a combination that is *sui generis*. (Cook 1992, 565)

Cook (1992) argues that L1 and L2 share the same mental lexicon. In consequence bilinguals are believed to hold a single dictionary where both languages are combined in some form rather than two separate dictionaries (1992, 566). Evidence for this is found, for example, in two experiments conducted to determine the functional status of Spanish-English cognates among adult Spanish-English bilinguals (Cristoffanini, Kirsner & Milech 1986). Studies on bilingualism show, however, that linguistic levels may be differently represented in the learners' minds. As early as 1978, Albert and Obler argued that the subsystem of the lexicon and semantic fields might well be organized differently from subsystems for syntactic, phonological, and morphological decoding and production (1978, 47). Faerch and Kasper, drawing on Albert and Obler's study, maintain that a learner "may have a coordinate representation of L1/IL knowledge at certain levels and a compound representation at others." (1989, 178). In fact, they assume that vocabulary is, "especially when L1 and L2 are culturally and linguistically related, a compound system, within which the different bits of information are "tagged" for different language codes" (1989, 178). If transfer operates within one and the same compound system, they argue, "either it becomes vacuous talking about L1 transfer," ... "or transfer is to be characterized as *intrasystemic*."... (1989, 179).

It has repeatedly been argued that all L2 learners make the initial assumption of word-for-word equivalence as a working hypothesis when dealing with the L2 (see Adjemian 1983; Blum-Kulka & Levenston 1983; Ijaz 1986; Harley & Lou King 1989). This hypothesis, which Ijaz termed the *semantic equivalence hypothesis*, "facilitates the acquisition of lexical meanings in the L2 in that it reduces it to the relabeling of concepts already learned in the L1." (Ijaz 1986, 446). Yet second language learners do not automatically consider all lexical items in L1 semantically equivalent and transferable to L2. Kellerman (1983; 1984), for instance, has strongly put forward the view that transferability from L1 is a probabilistic measure that depends on both objective and subjective estimates. While the objective degree of similarity between languages (i.e. the language distance) as it was viewed by traditional contrastive analysis (e.g. Lado 1957) is necessary to determine how transferable a structure may be, it has been argued by Kellerman (and others) that this is not sufficient. Kellerman (1977; 1979; 1983) has suggested that the second language learner's *perception* of distance, i.e. the degree of typological relatedness between two languages will strongly influence transferability.

The research done so far on learners' perceptions of distance seems to show that, especially with related languages, learners tend to adopt an undifferentiated, global strategy of transfer in the initial stages of learning. As was demonstrated earlier in this study, learners may at later stages become more reluctant to transfer especially language material that is perceived as language-specific in L1. Although most of the evidence about language distance pertains to first language effects (L1), there is also some evidence that learners may be capable of becoming sensitive to the fact that the distance between two target languages (L2 and L3) may be closer than between the native (L1) and the target language (L2 or L3). Consequently the learner may under certain conditions transfer even more readily between the target languages than between the native and the target language. This phenomenon which was termed non-native language influence (Ln-influence) by Ringbom (1985) (other terms used are "L3-interference" by Stedje 1977, 'other tongue influence' by Singleton 1987), has been found to be quite common in certain multilingual settings. Most studies on Ln-influence have been made among European multilinguals who have learned at least two, sometimes more than two languages in a predominantly tutored, classroom setting. In a couple of case studies, however, the learner acquired the non-native language (L2) (i.e. the one that was found to influence another non-native language) informally during working visits in the target language (L2) country. Generally the research done so far has shown influence between non-native languages primarily in the area of lexis (cf. Ringbom 1985, 41).

In a study in bilingual Finland comprising some 10.000 essays written by Finns in the national matriculation examination in English (L2), Ringbom found frequent examples of errors traceable to Swedish (L3). The examples of Swedish influence were predominantly found in the area of lexis, whereas "examples of grammatical influence from Swedish hardly occurred at all, with the exception of word order errors." (Ringbom 1985, 44). As Ringbom points out, non-native language influence must depend on the learners' perception of some basic crosslinguistic similarities to take place. The evidence for this, he argues, "is shown by the fact that hardly any Finnish influence, even on lexis, can be seen on the English of Finland-Swedish learners, whereas there is a fair amount of lexical influence from Swedish on the English of Finnish learners." (Ringbom 1985, 41).

Similar results were obtained by Sjöholm (1976), who found that Finns were even more inclined than Swedish-speaking Finns to resort to Swedish-based 'false friends' in a test on English vocabulary (e.g. *blanket* for Swedish *blankett* which means 'form' in English). It is worth noting that the Finnish-speaking learners in Ringbom's and Sjöholm's studies had acquired their language skills in a predominantly tutored, classroom setting (they had studied English for ten and Swedish for six years at school). The studies supported the notion that perceived language distance (or the learner's psychotypology) has a role in language transfer. The evidence found in these studies supports the view of transfer as a process in which the learner borrows from linguistic resources other than the knowledge of the target language in order to make up for deficiences in that knowledge.

In some other studies on non-native language influence, the language of influence has been acquired in an informal, more or less natural setting. For example Stedje's (1977) subjects, who were Finnish students studying German in Stockholm, had of course had frequent natural contacts with Swedish in order to get along in the first place. Whereas Ringbom's studies displayed Ln-influence almost exclusively in the area of *lexis* , the German of Stedje's Finnish students also showed traces of *grammatical* influence from Swedish.

What was amazing about Philip, the English subject in Singleton's case study, was that he on the basis of three brief visits to France (none of which had lasted more than two weeks) had achieved a surprisingly high degree of communicative efficiency in French. He had a very limited experience in written French and had never been taught the language at school. Of the other languages Philip knew, Spanish had been acquired informally during a three-year working visit to Spain. In addition to Spanish and French, he had some school knowledge of Irish and Latin. Singleton hypothesized that Philip, when communicating in French, "was supplementing his deficient resources in French by drawing on his knowledge of other languages." (Singleton 1987, 330). Singleton's assumption was that Philip in particular would be tapping his knowledge of Spanish to expand his linguistic resources in French. As was originally hypothesized, Spanish turned out to be a more frequent source of transfer than English (Philip's L1), Irish, and Latin. From the answers of a questionnaire which was given to Philip, it emerged that he was well-informed about the practical value of Spanish when it came to communicating in French. "With regard to French, I often 'Frenchify' a Spanish or Latin word which I suspect might fit, ..." (Singleton 1987, 331). Singleton described the mechanisms underlying non-native language transfer as "ignorance-triggered borrowing on the one hand and formal and semantic blending based on assimilative memory codes on the other, ... " (Singleton 1987, 337).

Some very interesting findings concerning non-native language influence have recently been reported in Sweden by Hammarberg and Williams (1993). Their subject was a native English woman who had acquired German (mostly informally) during a six-year stay in Germany. Afterwards she had acquired Swedish in an informal context in Sweden. In an interview which was undertaken with their subject shortly after she had arrived in Sweden, it was found that her Swedish pronunciation was strongly influenced by German (her L2). In the same interview (it was based on a cartoon) a year later, most of the German influence was gone, instead clear instances of English influence could be discerned.

Some characteristics of instructed second language learning

There are numerous theories of L2 acquisition already in existence. A survey of some of them were given in Chapter two. However, few theories have specifically been concerned with classroom L2 learning (cf. Ellis 1990). The purpose of this subsection is to provide an account of some features characterizing instructed second language learning. In formulating a theory of classroom L2 learning, it is important to specify whether it intends to account for competence or for performance. It is argued here that a theory which seeks to be relevant to the needs of teachers must address both competence and performance. As has been argued by many scholars, teachers have little to gain from a theory of competence by itself. What they need is "a theory that helps them understand and plan for how new knowledge is formed on the one hand and how learners learn how to use this knowledge correctly and appropriately on the other." (Ellis 1990, 175). As was argued in figure 2, all language acquisition takes place in a social context of some kind.

The data in this study have evolved from a L2 classroom context. As has been suggested by van Lier, the classroom can be a particularly productive place for studying L2 development, "since the participants are overtly concerned with that aim." (van Lier 1988, 213). "At the very best", he goes on " we cannot summarily assume that *more* interesting information about learning can be obtained when they are *not* concerned with learning, but rather with doing something else." (van Lier, 213). The activities taking place in the classroom context can be characterized as an interplay between cognitive and interactive work. Van Lier argues that these activities can occur only in a context of meaningful participation in talk. "Meaningfulness" is not to be equated with only those things that lend meaning to talk outside class, as has been argued by some adherents of the communicative approach, but puposeful participation and meaningfulness is relevant also to "specific classroom activities, including rituals, games and metalinguistic problem solving." (van Lier 1988, 214).

The second of Klein's (1990) minimal requirements for a theory of second language acquisition concerned the need for some kind of input. Could it be postulated that the input in instructed second language learning somehow would be different from the input in natural first or second language acquisition? Generally, the input in instructed second language learning (in the classroom) could be characterized as considerably more context-reduced and decontextualized than the input in language acquisition in its natural environment (outside school). Cummins (1981) argues for a context continuum depending on the degree of naturalness in the learning situation. In the "natural" end of the continuum "we find context-embedded communication where meaning is actively negotiated by the participants, while at the other end there is context-reduced communication." (Dubin & Olshtain 1986, 72). In a context-reduced situation linguistic clues play an important role, whereas, in context-embedded communication, the participants can rely on various non-linguistic elements to support meaning when the linguistic clues prove insufficient. Dubin and Olshtain (1986) suggest that Cummins' context continuum is intersected by another continuum which is based on the amount of information processing that is involved in the task:

> tasks that are well-learned and automated require little cognitive effort, while those that are not well-learned require more cognitive involvement. Thus the most difficult situation is one which is context-reduced with a cognitively demanding task. The relevance of Cummins' explanation to language learning is that we need to distinguish between language used in everyday, face-to-face interaction where fluency or communication strategies may be of the greatest importance and school settings where the learning tasks are much more cognitively demanding. (Dubin & Olshtain 1986, 72)

It could be assumed that other differences between classroom and natural input also occur. Because of the strong position of traditional grammar in classroom teaching, it could be assumed that input in a classroom setting would be biased towards "grammar" (cf. 3.1, p. 41). Thus learners are sparsely exposed to such areas of linguistic behaviour that involve lexical and pragmatic aspects of the target language which interact closely with socio-cultural systems "beyond" the language system proper. These are aspects that make language performance appear "native-like" and "idiomatic".

Another plausible assumption could be that second language learners are overexposed to simplified, basic, high-utility and high-frequency words. The input on which second language learners form their hypotheses about the target language might therefore be "distorted". The continual exposure to an input which is predominantly derived from textbooks and classroom practices might at later levels of proficiency block the learner's ability (and wish) to develop new lexical items and meanings. Marton calls the phenomenon "the ceiling of linguistic development".[16] In effect, this could imply that learners will not always be 'sensitized to' new, language-specific (or idiomatic) meanings of lexical items and when they do become aware of these lexical items /meanings they tend to avoid using them, e.g. the non-idiomatic **give somebody a compliment* is used instead of the idiomatic *pay somebody a compliment*.

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[16] A similar blockage in the linguistic development has been attested in second language acquisition in a natural environment among immigrants (see Kotsinas 1983)

A fact that few researchers would dispute is that the input encountered in a classroom setting contains much more written texts than natural input. Written material such as textbooks, exercise-books, readers, school grammars and the like, the utilization of which presupposes reading as well as general problem-solving skills, very often comprise necessary equipments for the second language teacher. Cummins (1979, 1980) contends that the language proficiency developed in a classroom setting is different from the language proficiency developed by preschool children and it seems to be related to literacy skills (reading and writing). Cummins calls the classroom language proficiency Cognitive/Academic Language Proficiency (CALP). CALP has been described as "the skills needed to manipulate or reflect upon surface features of language outside of the immediate interpersonal context." (McLaughlin 1985, 10). Preschool children develop what has been called Basic Interpersonal Communicative Skills (BICS). Cummins viewed these skills as universal across native speakers and they were characterized as "the communicative capacity that all normal children acquire so as to be capable of functioning in everyday interpersonal contexts." (McLaughlin 1985, 10). Cummins' influential 'linguistic interdependence hypothesis' proposes that the level of competence in a second language learned in a school context is a function of the level of competence in the child's first language. Thus Cummins found correlations between first-language CALP and second-language CALP proficiency (usually in the range .60 to .70). BICS, on the other hand, seemed to be a rather vague term, but was thought to be similar to Chomsky's notion of competence (McLaughlin 1985, 11). The probable conclusion to be drawn from this is that a certain degree of L1 CALP is necessary for (successful) second language learning in all kinds of classroom settings. Thus, there seems to be some evidence that native language literacy, which is inherent in CALP, interacts with transfer. The kind of transfer affecting literate bilinguals' success in the acquisition of a second language is to be described as transfer of training rather than native language transfer. To put it in Odlin's words: "... literate bilinguals may have an advantage not just because of their linguistic skills but also because of problem-solving skills that they may have acquired in the course of their education." (Odlin 1989, 135).

To sum up, the language input deriving from a second language classroom setting seems to be rather 'bookish'. The learners are typically exposed to written teaching materials which are presented either as graded and sequenced pedagogic tasks (cf Long & Crookes 1990) or as carefully selected, "prototypical" examples of grammatical rules and lexical elements.

Finally, a typical feature of the input in instructed learning is the focus given to formal properties of the target language. Teaching provides the learner with explicit grammatical rules, which he or she has to 'internalize'. Furthermore, classroom teaching provides the learner with vast amounts of negative evidence, which is in strong contrast with the limited negative evidence found in untutored, natural settings (cf Klein 1990, 220). So far there has been insufficient research to warrant firm conclusions concerning the effects of formal instruction on second language acquisition. As suggested by Larsen-Freeman and Long (1991), there is no evidence showing that formal instruction is able to alter acquisition sequences, but current research seems to indicate that instruction has positive effects on the processes of second language acquisition. There are "clearly positive effects on the rate at which learners acquire the language, and probably beneficial effects on their ultimate level of attainment." (1991, 321). As suggested by Long and Crookes (1990), by paying more attention to non-salient or semantically opaque features of language in language instruction, we might expect that the speed by which the learners will notice them in the input will increase. This is important because noticing has been alleged to be necessary for input to become intake (Schmidt 1990).

Let us now briefly consider the third of the components that Klein (1990) considers inevitable in a theory of language acquisition. Many SLA researchers (Kilborn & Ito 1989; Klein 1990) claim that motivational differences may, in fact, be responsible for a crucial part of the differences between first language (L1) and second language (L2) acquisition. Thus it could be assumed that there is a moderate need to invest much cognitive effort if the aim is instrumental, e.g. to make oneself understood during a journey in a foreign country. When second language learners are driven by a more integrative motive, e.g. by a wish to become a normal member of some social community, the acquisition of the L2 speech habits will be guided by principles of optimality regardless of cognitive "cost" (cf. Gardner 1983, 1985, 1988).

4. Background of the empirical study

This study takes as its point of departure the relationship between two aspects of second language competence, "free expressions" which are represented as analysed knowledge in the mind of the learner (i.e. as conscious or unconscious linguistic rules), and "fixed expressions" which are perceived holistically and are not generally reducible to minor structural elements (cf. Alexander 1978; Carter 1987). The "free expressions" that have been characterized as heavy-duty words or idiom-prone words (e.g. such verbs as *come, go, give, take, put* etc.) are especially interesting. Because of their high frequency, coreness or universality of meaning, these words have, in isolation, been alleged to be learned very early. High-utility words of this kind lend themselves to negotiation of meaning from one context to another. However, when these words enter as components into more stable combinations (idioms, colligations etc.), they tend to receive a new, unitary and stable meaning which no longer is subservient to personal adjustments of sense. As a result of their repeated usage as fixed units in grammatical constructions, these fixed expressions have developed more or less unitary referential meanings. These word combinations, which are relatively invariable in form and function as constituents of sentences, were by Cowie termed *composites* (1988, 134). Expressions of the kind described above with a more or less stabilized meaning and form have become *semantically* specialized, or *idiomatic* (cf. Lattey 1986, 219). The focus of the empirical study in this thesis will be on a certain kind of composite, phrasal verbs, which will be discussed in some detail in sections 4.2 and 4.3.

4.1. Rationale behind the empirical study

Before describing phrasal verbs in any detail, some comments on the idea behind the empirical part of this study are needed. It was assumed that the conditions in Finland, which is a bilingual country with two official, national languages (Finnish and Swedish), would provide linguists with unique opportunities to pursue comparative linguistic studies. Swedish is the mother tongue of 5.9 % (i.e. a little under 300.000) out of a total population of 5 million. The aim of this study was to compare Finns and Swedish-speaking Finns (henceforth Finns and Swedes) in the acquisition of English phrasal verbs. The general idea was to attempt to control as many of the input and learner background characteristics as possible. Firstly, it was assumed that the situational input characteristics were the same for all testees, Finns and Swedes alike. The strict test instructions (in writing and orally) were believed to guarantee that the test taking situation was the same for all subjects. Exactly the same test was given to all subjects. Secondly, it was assumed that most learner background characteristics were equal for Finns and Swedes. The comparability of the learners' background was partly checked empirically by means of a questionnaire. The following learner and structural variables, which could have an effect on the test results, were assumed to be controlled with respect to Finns and Swedes.

(1) Motivational factors (or social context)
(2) Cognitive developmental factors (age)
(3) Cultural factors
(4) Regional and socio-economic factors
(5) Educational background
(6) Natural input factors

Let us then briefly comment on the above listed factors in turn. The social context in which a language is learned has by a number of linguists been claimed to have certain effects on the learner and the learning process (Gardner 1983; Spolsky 1989; Klein 1990). Let us therefore look into the social contexts in which English is learned in Finnish- and Swedish-speaking schools. Generally speaking, the language settings in which a second language is learned may be of different kinds. One type of language setting might be characterized as one in which there is a strong support for the learning of the target language. A language setting might also be one in which there is indifference or even negativism towards the target language (Dubin & Olshtain 1986, 7). In bilingual Finland, English is learned almost exclusively in a classroom setting. Because neither Finnish nor Swedish is widely used outside their own area, English functions as an international language or as a "language of wider communication" (LWC) (cf. Dubin & Olshtain 1986, 7). Thus knowledge of English enjoys high social prestige in Finland and it can be assumed that the instrumental motivation for learning English is fairly high (cf. Ringbom 1987, 14). It also seems plausible to assume that there are positive attitudes towards English which reflect a high regard and appreciation of both the language and cultures and what they represent. Positive group attitudes combined with positive individual attitudes towards the learning process will bring about the best results in terms of acquisition (Gardner 1983, 222). These two sets of attitudes are believed to influence motivation and lead to *integrative motive*. Gardner's model predicts that integrative motive has positive effects on L2 achievement. In conclusion, it seems reasonable to believe that both instrumental and integrative motivation are important factors in the acquisition of English in Finland. It also seems likely that the high motivation affects both language groups to the same extent.

The age of the the great majority of the subjects in this study was between 16 and 25 (see 5.3). From a developmental point of view all the subjects (Finns as well as Swedes) had reached the phase of formal operations, i.e. they possessed the ability to use abstract thinking and hypothetical reasoning (cf. Inhelder & Piaget 1958). This is of some importance because the comprehension of figurative meanings (in metaphors, idioms, proverbs and the like) in first language acquisition is dependent on the learner's cognitive development. It has been found that children, especially under the age of seven, comprehend figurative meanings literally, i.e. they themselves believe that they understand proverbs, idioms, metaphors, but in fact their comprehension is very different from that of adults (Tornéus 1986). In Piagetian terms children are able to use figurative language quite early, but they cannot explain the use of such language until they enter the phase of formal operations (Pollio & Pollio 1974). This ability has been described by Tornéus as a "linguistic liberation of metalinguistic character" (1986, 56). The conclusion to be drawn from this is that the acquisition of phrasal verbs (which very often have non-literal meanings) is not influenced by developmental factors in this study because all participants had entered the phase of formal operations.

Culturally, Finns and Swedes share a common Finnish cultural inheritance, but the Swedish-speaking population understandably has closer contacts with Sweden. Although language disputes between the two language groups were quite common as late as the 1930's, the Swedish-speaking minority group seems to have become more and more integrated in present-day Finland (cf. Allardt & Starck 1981). This is reflected by the growing number of intermarriages and bilingual ties of friendship especially in urban areas. To conclude, it may be a slight exaggeration to state that Finns and Swedes share exactly the same culture, but it seems fair to say that it is hard to find a more unicultural situation for two languages anywhere in the world.

The Swedish-speaking Finns live mainly in the coastal areas of the southern and western parts of Finland, as well as in the Åland Islands and the archipelago off Turku (Sw. Åbo). In the bilingual areas in and around the bigger cities (Helsinki, Turku, Vaasa), Swedish is a minority language. In the rest of the Swedish-speaking parts of Finland, Swedish is, as a rule, a majority language. In a few municipalities in the Turku archipelago and the Vaasa region there are still some unilingually Swedish-speaking municipalities. In addition, the province of Åland, which has a semi-independent status, is also unilingually Swedish-speaking. The rest of Finland is, on the whole, unilingually Finnish-speaking. Although the Swedish-speaking minority up to recent times has had the reputation of being an old élite, the social stratification of the Swedish and Finnish populations in Finland differs very little today (Ringbom 1987, 7-8, 21).

Both language groups have their education in their own language from kindergarten to university, although the same school and educational laws apply. By and large, both language groups follow the same national curriculum. In the compulsory Finnish basic/comprehensive school (9 years), the learning of the other group's language is obligatory (i.e. Swedish in Finnish-speaking schools and Finnish in Swedish-speaking schools). Swedish starts almost always in the seventh form (13-year-olds) in Finnish-speaking schools, whereas Finnish usually starts as early as the third form (9-year-olds) in Swedish-speaking schools. As a rule, English starts in the third form in Finnish-speaking schools, and two years later in Swedish-speaking schools. One more language is studied from the eighth form (usually chosen from among German, French, and Russian). For those who decide to continue their education in the upper secondary school (Sw. gymnasium), one more language is usually selected (German, French, or Russian). The upper secondary school level comprises three more years on top of the compulsory basic/comprehensive school (Sw. grundskola) and leads to the national matriculation examination (Sw. studentexamen). Both language groups follow the same curriculum at this level and take the same matriculation examination.

To sum up, it can be concluded that English as a school subject is treated very similarly in Finnish- and Swedish-speaking secondary schools. The two language groups take the same test in the matriculation examination, have similar teaching materials, and even largely the same textbooks.

Finally, let us look at the amount of natural English input that Finnish- and Swedish-speaking learners are exposed to. Natural English input could be defined as the results of various spoken (and written) contacts with English native speakers that learners have at home and abroad. The most reliable measure of natural input is probably the period of time a learner has spent in an English-speaking country. Because there is reason to believe that the samples of Finnish- and Swedish-speaking subjects in the study are comparable with respect to such variables as socio-economic background and culture, it could also be assumed that the two language groups are basically equal with respect to exposure to "natural" English (cf. section 5.3.).

4.2. Some contrastive remarks on Finnish, Swedish, and English.

In this section, a brief structural comparison will be made between Finnish, Swedish, and English. From a general point of view, little need be said here about Swedish and English, since they are both Germanic languages and closely related. Finnish, which is not an Indo-European language, belongs to the Finno-Ugrian family of languages, its closest relation being Estonian. Typologically, English is an analytic language. Swedish is also an analytic language, but less so than English (cf. Wande 1989, 127). Finnish, on the other hand, is a synthetic language, which implies that the words in Finnish contain more semantic information than equivalent Swedish and English words (cf. Fi. *kodissammekin*; Sw. *också i vårt hem*; Eng. *in our home, too*). What in Swedish and English is expressed by independent words (prepositions, auxiliaries, adverbs, and particles) is in Finnish very often rendered by case endings or derivational suffixes. In fact, the word formation system in Finnish is very rich. According to a rough estimation, base words free from suffixes constitute only about 10 % of the Finnish vocabulary, whereas the rest are derivations (about 50 %) and compounds (Grönholm 1991, 450). It has been alleged, however, that modern spoken Finnish is more analytic than the written language (Saukkonen 1972). It is very probable that the analytic tendency in spoken Finnish is a result of Swedish influence (cf. Nesser 1986; Wande 1989). Häkkinen (1990, 268) gives several examples where there exist two parallel expressions, a native Finnish expression and a more analytic Swedish loan translation (e.g. Fi. *osallistua - ottaa osaa*; Sw. *delta - ta del i*; Eng. *participate - take part in*).

As was suggested in the beginning of this chapter, the focus of this study will be on a certain kind of composite, phrasal verbs. The term "phrasal verb" will here be used in its widest sense including (a) genuine phrasal verbs (a 'base' verb + adverbial particle e.g. *break down, make up,* (b) prepositional verbs (a 'base' verb + preposition e.g. *apply for, go for*) and (c) phrasal-prepositional verbs (a 'base' verb + adverbial particle + preposition e.g. *catch up with, put up with*) (see Quirk et al. 1972, 811-19; Gairns & Redman 1986, 33; *Collins COBUILD* 1991, 158). Phrasal and prepositional verbs display certain phonological and syntactic differences (cf. Fraser 1976). The particle in genuine phrasal verbs is normally stressed, whereas the preposition in prepositional verbs is unstressed (e.g. *He called 'up the man/ He 'called on the man*). A syntactic difference between the two verb types is that the particle in transitive phrasal verbs is separable, i.e. it can either stand before or after the noun, whereas it can stand only after a personal pronoun (e.g. *call up the man, call the man up, call him up,* but not * *call up him*). In prepositional verbs, the verb and preposition are inseparable (e.g. *They call on the man, They call on him,* but not * *They call the man on; *They call him on*)(cf. Quirk et al 1972; Kaluza 1984; Gairns & Redman 1986).[17]

Another way of defining and classifying phrasal verbs is to do it with reference to Wood's continuum model of language patterns (Fig. 3, p. 67). Interestingly enough, we find phrasal verbs and phrasal verb-like expressions spread in almost all the main patterns in Wood's model. Some phrasal verbs can be positioned at the idiomatic end of the model. The phrasal verb *take up* in the context "She decided to take up medicine as a career" seems to be an example of a fairly unique lexical item having no specific pragmatic function (i.e. it is an idiom). Sometimes, however, phrasal verbs are pragmatically specialized lexical phrases (colligations) with specific functions. Thus the colligation structurally described as V [trans] + *up* often takes a function indicating 'increase in quantity or quality' (e.g. *brush up, speak up, do up*). Phrasal verbs may also occur as frequently used verb-particle combinations, which may be characterized as semantically unspecialized (transparent), productive and fairly free combinations (e.g. *go out/up; walk out/up; take out/up*). Finally, phrasal verbs-like expressions may occur also in syntactic strings with full freedom of combination (e.g. 'Don't walk on the grass'). Structurally, phrasal verbs can be characterized as very short phrases [verb + part (prep)] functioning as individual lexical items (verbs). Phrasal verbs are on the whole fixed, but some of them allow a certain variability.

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[17] Hiltunen (1983) argues that early grammarians (in 16th, 17th, and 18th century grammars) failed to give the typically English constructions that nowadays are often referred to as "phrasal" or "prepositional verbs" their due. Even in fairly modern linguistic descriptions of phrasal verbs, a heterogeneous terminology has been used over the past twenty years or so, see e.g. D. Bolinger (1971) and K. Sroka (1972).

Thus *pull down* and *knock down* are synonyms meaning approximately *demolish*. Similarly, *slow down* and *slow up* have very similar meanings (i.e. *decrease*), but the variable element is this time the particle.

An analysis of how the category phrasal verb is expressed in Swedish and Finnish respectively, shows some interesting differences. As regards Swedish, it can be noticed that almost identical constructions to the three types of English "phrasal verbs" previously described exist in Swedish (Svartvik & Sager 1980, 351). Furthermore, it can be established that occasionally the phrasal constructions have equivalent and formally similar lexical elements in the two languages (e.g. *go out/gå ut; break out/bryta ut*) or partly equivalent lexical elements (e.g. *get up/stiga upp; take off/avgå*). Sometimes, however, phrasal verbs occur in both languages, but the lexical elements are non-equivalent in the two languages (e.g. *go for/ryka på; make up/hitta på*). A third possibility is that we have a phrasal verb in one of the languages and a one-part verb in the other [e.g. *turn down/avslå; disappear/gå bort* (about stains)].

In Finnish, the equivalents to English phrasal verbs are almost always expressed by one-part verbs (e.g. *take off/lähteä; go on/jatkaa; put up/nostaa*)(see appendix 1). Yet the verb usually requires the noun that follows to be inflected for case (e.g. "He went out for a walk"/"Hän lähti kävely*lle*" (allative case), "He went over to another party"/"Hän muutti puolue*tta*" (partitive case)). Sometimes, however, certain derivational morphemes in the rich Finnish word formation system provide the same meaning as English phrasal verbs. But the resulting verb is always a one-part word. There is, however, no systematic, simplified one-to-one relationship between the derivational morphemes in Finnish and the particles and prepositions in Swedish and English phrasal verbs. Thus reflexive meaning is sometimes expressed by the ending *-utu/yty*, e.g. suoria /suori*utu*a (*explain/manage, get through*). Similarly, the ending *-ahta/ähtä* usually designates momentariness, e.g. istua /ist*aht*aa (*sit/sit down*), räikkyä/räj*ähtä*ä (*rattle/go off*). In the same way frequentativeness is expressed by *-ele/-ile*, e.g. katsoa/kats*el*la (*look/look at*) and causativity by *-tta/-ttä*, e.g. kasva*tta*a (*grow/bring up*), räikkyä/räjäy*ttä*ä (*rattle /blow up*)(cf. Hakulinen 1968; Karlsson 1982). In colloquial and informal Finnish (and especially in slang expressions), however, two-word verbs similar to English phrasal verbs may sometimes occur (e.g. *mennä takaisin* (*palata*)/ *go back; ottaa ulos* (*nostaa*)/ *take out* (*get out*) *money; kirjoittaa ylös/write down*) (cf Saukkonen 1972). The meanings of these "Finnish" expressions are as a rule semantically transparent. The policy of the highly puristic Finnish language planners and teachers, however, has been deliberately to weed out such expressions as unacceptable 'sveticisms'.

What are then the possible implications to be deduced from the contrastive descriptions above as regards the learning of English phrasal verbs by Finns and Swedish-speaking Finns? From a general language distance point of view, it could be expected that Finns would have greater problems than Swedes in the acquisition of English phrasal verbs. It also seems plausible to assume that Finns will face the greatest problems at the early stages of learning, because the category phrasal verbs does not exist in Finnish. Finally, it could be predicted that 'idiomatic' phrasal verbs will be less transferable than 'non-idiomatic' ones, and that one-part verbs will be more preferred by learners than by native speakers.

4.3. The study of phrasal verbs

Phrasal verbs are today recognized as an important component in the English language. With the general increase in interest in spoken language, phrasal verbs have been discovered as central also in curricula for English as a foreign language (Cornell 1985, 269). The interest in phrasal verbs is a relatively recent development, though. Hiltunen (1983) maintains that one at best could speak of a latent awareness of phrasal constructions in the writings of sixteenth and seventeenth-century grammarians. Possibly the Latin tradition might have impeded "many of them from taking up constructions so alien to Latin in their accounts of English." (1983, 378). Hiltunen also found that the idea of looking at phrasal verbs as single units developed very slowly in the early descriptions of English.

How important are then phrasal verbs? One way of establishing their relative importance is to do it in quantitative terms. McArthur and Atkins (1974) maintain that there are at least 3,000 established phrasal verbs in English, whereas Bywater (1969) believes that there are seven hundred of them in ordinary, everyday use. More recent work shows that phrasal verbs are extremely common in English. The *Collins COBUILD Dictionary of Phrasal Verbs* lists over three thousand combinations of verbs and adverbial particles or prepositions with over five thousand five hundred different meanings (Sinclair & Moon 1989, v). In *Longman's Dictionary of Phrasal Verbs*, which is the most complete one, over 12.000 phrasal verbs are listed and explained (Courtney 1983). Although such statistics are unsatisfactory, it suggests that phrasal verbs comprise a considerable part of the English language.

Why then is the acquisition of phrasal verbs an interesting object of study? One answer is that the acquisition of idioms seems somehow to be connected with such theoretical concepts as learnability, transferability, avoidance (or non-use), and U-shaped behaviour. Therefore it seems plausible to start with a simple and frequent idiom-type such as phrasal verbs and see in what way such a study will contribute to our general understanding of second language acquisition.

Phrasal verbs and learnability

Generally speaking, phrasal verbs (as well as the two other types of multi-word-verbs mentioned above) have been found to constitute a learning problem; this is especially true if the goal is to master them productively (cf. Cornell 1985). A large number of multi-word verbs are, however, fairly easy to understand, because their meaning can easily be deduced if the learner is familiar with the verb element. The learner will have no real problem in understanding *sit down*, *fill in*, or *rush away*, because these phrasal verbs have retained the meaning of their individual verb and particle. These combinations are semantically unspecialized or transparent (i.e. non-idiomatic). In these phrasal verbs the verbal element carries most of the meaning and this meaning often coincides with a 'universal' core meaning which has been found easy to process among learners (cf. Kellerman 1979, 1983; Gass 1988). In very many (probably the majority) of the phrasal verbs the meaning is not clear from the individual parts. When the whole combination of verb and particle (or preposition) or some part of the combination receives a new meaning, the expression is said to be semantically opaque (i.e. idiomatic). Examples of idiomatic phrasal verbs are *run down* (*criticize*) and *brush up* (*improve*). When a common, highly frequent and usually monosyllabic verb is combined with one of a small group of particles to form a new meaning, this meaning does not lend itself to easy learning (cf. Cornell 1985, 273). The characterization of phrasal verbs as idiomatic and non-idiomatic is of course not to be seen as an either-or matter, but the feature of idiomaticity is rather to be seen as a cline. There are in other words a lot of phrasal verbs that might be characterized as moderately idiomatic. Thus, every learner could not immediately deduce the meaning of *eat out*, especially if the expression occurs without context (cf. Cornell 1985, 270).

What adds to the complexity and at the same time to the learning difficulty is that many phrasal verbs often have multiple meanings. What also contributes to the mystique is that a phrasal verb may be polysemic not only by having both an idiomatic and non-idiomatic use, but in addition both the idiomatic and non-idiomatic uses may each have more than one meaning. Thus the multi-word verb *go over* has a fairly non-idiomatic (semantically transparent) meaning in "He went over to the Democrats" (cf. Swedish *gå över*). But in "The play didn't go over" (i.e. make an impression) and in "He went over his bank accounts carefully every day" (i.e. inspected), the meaning of *go over* has become semantically specialized (or idiomatic). Similarly, Cornell shows how the idiomatic combination *put up* subdivides into several different meanings: "He put us up for the night", "Who put you up to this?", and "He put up a good fight" (1985, 270).

In very many cases, though not in all, phrasal verbs have an equivalent, more or less synonymous one-part verb. Such more or less identical pairs are *make up/invent*; *call on/visit*; *put up with/tolerate*. In very few cases, however, are the phrasal verb and its one-part equivalent identical in meaning. Had this been the case, new phrasal verbs could easily be presented to the learner by the help of already familiar one-part verbs (or other familiar and synonymous phrasal verbs). A comparison between such seemingly identical verb-pairs will often show that the phrasal verb is collocationally, semantically and even syntactically more restricted than its one-part counterpart. Cornell (1985) gives a list of examples where the phrasal verb is more specific in meaning than its one-part equivalent. Sometimes particular connotations and collocational restrictions are attributed to the phrasal verbs. Thus *put up with* cannot like its equivalent *tolerate* be used in a positive manner and *come by* "has the connotation of difficulty or even dishonesty" (1985, 275). In addition *come by* is restricted syntactically in that it normally cannot be used in the passive, unlike its equivalents *acquire* and *obtain* (1985, 275).

A phrasal verb could then be expected to be perceived as more language-specific and idiomatic by the learner than its one-part equivalent, which would be perceived as fairly non-idiomatic because of its general, central and multi-purpose meaning. Phrasal verbs have also been alleged to be stylistically more informal and are believed to occur more frequently in the spoken than the written language (Cornell 1985, 269). There are probably many exceptions to this rule of thumb and there are many examples of how phrasal verbs that traditionally have been felt to be colloquial and informal, suddenly have become accepted in formal contexts. It is an inescapable fact, however, that the learning of phrasal verbs at school and university is generally not very successful (Cornell 1985, 273). Could it be that most students have been exposed to such a bookish form of language at school that they have been confronted with phrasal verbs so rarely that there had been no learning effect? This seems to be what Cornell has in mind when he says that it is unrealistic "to expect a wide active command of phrasal verbs from learners unless they have spent a very long period in an English-speaking country." (1985, 277).

Phrasal verbs and transferability

There seems to be a connection between the notion of learnability and transferability of lexical items. A general claim is that linguistically unmarked features of L1 will tend to transfer, whereas marked L1 features will not (Eckman 1977; Kellerman 1977; Gass 1979; Zobl 1983; Hyltenstam 1987). At the lexical level, the distinction unmarked/marked (see Lyons 1968, 79) roughly corresponds to the similar distinctions core/non-core and prototypical/non-prototypical meanings. Carter (1987, 33) describes core items as those that are the most basic and simple and possess properties that are generic rather than specific (cf. 3.2). For transfer to occur in the first place, the occurrence of linguistic equivalence between L1 and L2 must be established. But as has repeatedly been pointed out, a potential for transfer between L1 and L2 is no guarantee in itself that transfer will take place.

Kellerman argues that two factors act as *constraints* or *triggers* of transfer. Firstly, he claims that the learners' *perception of language distance*, or as he wanted to put it, the learners' *psychotypology*, will influence the nature of their L2 utterances and their general willingness to transfer (1983, 114). On a general level, perceived closeness between any two (or more) languages was believed to be favourable to transfer. Secondly, Kellerman proposes the speakers' own perceptions of the structure of their L1 as a 'transferability constraint'. Thus Kellerman argues that if an L1 feature was perceived as "infrequent, irregular, semantically or structurally opaque, or in any other way exceptional," or what he called *psycholinguistically marked*, "then its transferability will be inversely proportional to its degree of markedness." (1983, 117). According to Kellerman, the psycholinguistically marked L1 features, which as a rule are treated as *language-specific* relative to other structures in L1, are not easily transferable to a given L2. On the other hand, L1 features, which are treated as *language-neutral*, are readily transferable to L2 (Kellerman 1983, 117). This explains why expressions with 'break' which had language-neutral equivalents in Dutch were readily accepted (and transferred) among Dutch learners of English (Kellerman 1978).

Viberg (1993) claims that lexical acquisition is organized around a small number of verbs (he calls them *nuclear verbs*), "which are typologically unmarked and tend to have the same meaning in a wide range of languages." (1993, 302). In his list of some of the most important nuclear verbs are verbs which have meanings such as *go, make, give* and *take*. He hypothesizes that nuclear verbs "serve as syntactic prototypes both in native speech and learner language."(1993, 302). Viberg argues that different kinds of complements will tend to emerge in combination with the nuclear verbs (e.g. directional complements like *go up, go down* in languages of the Germanic type). It is argued here that very much the same verbs as those mentioned by Viberg (1993) plus some additional verbs will tend to combine with a small number of particles and prepositions to form phrasal verbs (idiomatic and less idiomatic ones).

Let us then try to apply Kellerman's psychotypology constraint to the transferability of English phrasal verbs. Among learners lacking the category phrasal verb in their L1 (i.e. non-Germanic languages), this kind of multi-word verbs should not transfer easily, since the learners would be unable to make the necessary cross-lingual identifications in their L1. In a choice situation, one would expect these learners to favour one-part verb solutions. On the other hand, in a situation where L1 and L2 share phrasal verbs, learners should at least initially be more prone to transfer them to L2. Let us then go to the second of Kellerman's transferability constraints, i.e. the one pertaining to the learners' comparison of features within L1. Semantically specialized English phrasal verbs with language-specific counterparts in L1 are hypothesized not to be transferred to the same extent as the semantically unspecialized phrasal verbs. The last mentioned transparent phrasal verbs, which largely seem to coincide with Viberg's nuclear verbs, are hypothesized to be transferred and learned easily also by learners with mother tongues unrelated to English (cf. Viberg 1993, 302).

Phrasal verbs and avoidance

Avoidance or under-use of phrasal verbs has been found in several studies and with different types of data. McPartland (1983) found in her oral production data that six Russian learners of English (they were fluent Russian-English bilinguals) used significantly fewer two-word verbs than native speakers of English. She also found that the two-word verbs they used were verbs with a low degree of idiomaticity. In the written composition data analysed by Yorio (1989), the same pattern emerged (cf. Ife 1990). His advanced learners of English used somewhat fewer two-word verbs than native speakers of English (14 % versus 20 % of conjugated verbs). However, 36 % of the L1 writers' two-word verbs were idiomatic (such as *bring up*), whereas only 6 % of those used by L2 writers were (Yorio 1989, 64).

Similar results have been noticed with elicitation data by Dagut and Laufer (1985). They found that Hebrew learners of English in a choice situation between phrasal and synonymous one-part verbs (e.g. *turn up* versus *appear*) tended to prefer the one-part verb. They interpreted their data as avoidance, i.e. as an indirect influence from L1, because the phrasal verb structure does not exist in Hebrew. In a later study, Hulstijn and Marchena (1989) suggest that the structural interpretation made by Dagut and Laufer may not, after all, be entirely correct. They argue that a corollary to be derived from Dagut and Laufer's study is that native speakers of Germanic languages (e.g. Dutch) "would not avoid English phrasal verbs, since both the English and the Dutch language system comprise phrasal verbs."(Hulstijn & Marchena, 1989, 242). In a study similar to the one by Dagut and Laufer, they found , however, that also Dutch learners of English tended to avoid phrasal verbs, probably because the phrasal verbs often had a specific, idiomatic meaning, whereas their one-word equivalents often had a more general (prototypical) meaning. Unfortunately, an exact comparison between these two studies was not possible for methodological reasons. First, the test sentences used in the two studies were not identical, and the testing procedures were also slightly different. Second, Hulstijn and Marchena believed that the Dutch learners possibly had a higher level of proficiency than the equivalent Hebrew learners (1989, 251).

Phrasal verbs and U-shaped behaviour

A phenomenon which in some way seems to be related to avoidance or avoidance-like behaviour, is the so-called U-shaped behaviour. This phenomenon, which was described in some detail in chapter 3.4 (p. 77 ff.) has been noticed in L1 as well as L2 acquisition (and also in other cognitive, non-linguistic domains). U-shaped learning seems to be related to chunk learning and the learning of fixed utterances. It has also been argued that cross-linguistic influence plays a critical role in the manifestation of U-shaped behaviour in L2-learning (Kellerman 1985; Sharwood Smith & Kellerman 1989). To be concrete, it has been claimed that L1-based multi-word combinations are accepted among less proficient and advanced learners, but rejected among intermediate learners. If this is so, one would expect a U-shaped curve to show up in the acquisition of English phrasal verbs among learners whose L1 has this kind of multi-word verb. On the other hand, one would expect no U-shaped curve among learners in whose L1 phrasal verbs are lacking. How should a U-shaped curve in the acquisition of phrasal verbs then be explained? With learners of closely related languages, one could assume that less proficient learners would adopt the general hypothesis that L1 and L2 were basically the same, and thus also shared phrasal verbs. More proficient learners, however, after having become sensitive to new semantic distinctions, might be expected to reject semantically opaque phrasal verbs, because they were perceived as language-specific in their L1.

4.4. Problems and hypotheses

The general questions addressed in this study are concerned with how learners learn an additional language after they have acquired their mother tongue. The aim of the empirical part of the study was to tap the underlying knowledge, or more specifically, to look deeper into elicited performance data of advanced

Finnish- and Swedish-speaking learners of English, which hopefully would increase our knowledge of the conditions of learnability and transferability. A central issue of the study was to gain insight into the conditions under which different types of L1 influence tend to occur in the acquisition of English phrasal verbs. For the purpose, a specifically designed multiple-choice test was constructed and administered to comparable groups of Finns and Swedes in bilingual Finland. The test contained two correct alternatives, a phrasal verb (which was preferred by native speakers) and a "synonymous" one-part verb. Three main types of test items were included in the test, namely items with Swedish-based, non-idiomatic phrasal verbs [e.g. *take out*(*ta ut*)], Swedish-based, idiomatic phrasal verbs [e.g. *break out*(*bryta ut*)], and idiomatic phrasal verbs with neither Swedish nor Finnish literal equivalents [e.g. *go off*(*explodera / räjähtää*)]. The subjects of the study were told to choose only one alternative, the one that best fitted the context. Thus the data consisted partly of errors, but the main body of data comprised the patterns of preferences for phrasal verbs displayed by Finns and Swedes in relation to the performance patterns of native speakers. The central issues of the study could be summarized in four major research questions. Questions 1 - 3, which could be characterized as empirically oriented, are primarily focused on differences in performance between the two language groups, whereas the fourth question discusses the theoretical contributions of the study. The research questions listed below which are primarily derived from the theoretical considerations in sections 4.2 and 4.3, will be followed by some specific hypotheses.

Research questions

1. Does the objective and subjectively perceived distance between L1 and L2 have any differential effects on how and to what extent Finns and Swedish-speaking Finns learn English phrasal verbs?

2. Do the quantity and quality of input have an effect on how and to what extent learners (Finns and Swedes) learn English phrasal verbs?

3. Do the semantic properties of phrasal verbs have any effect on how and to what extent Finns and Swedish-speaking Finns learn and choose English phrasal verbs?

4. In what way may the empirical results in this study contribute to the development of a theory of second language acquisition?

In the following, the empirically oriented research questions (Questions 1 - 3) will be briefly discussed. From each of the research problems some specific hypotheses will be derived. Question four will be treated in some detail in Chapter 7.

Research question 1.

Let us first consider Question one above which treats the issue of language distance. Traditional contrastive analysts maintained that structural difference (i.e. distance) correlated well with learning difficulty. It has recently been proposed that difficulty (or learnability) of some aspects of the target language ought to be assessed according to how far they coincide with or diverge from the learner's expectations (see Ife 1990, 48). The expectations are primarily determined by the *perceived* distance between L1 and L2 (or L3 etc.)(cf. Kellerman 1977, 1979, 1983). At lower proficiency levels, it has been found that these expectations are largely determined by the native language (L1 is usually the only linguistic experience to draw on). Support for this is found in Taylor (1975) who showed that transfer learning strategies were proportionately more common in elementary than in more advanced stages of second language acquisition. Considering the typological similarity and affinity between Swedish and English and the typological and structural dissimilarity of Finnish and English (generally as well as with regard to phrasal verbs), the following hypothesis was set up:

Hypothesis 1: Finns tend to commit more errors than Swedes in a test on phrasal verbs (especially in the early stages).

From a language contrastive point of view, it seems plausible to assume that the facilitative effects would be greatest in aspects of language where there exists and there can be perceived a lexico-semantic similarity between L1 and L2. In the test used in this study, many of the items contained phrasal verbs with similar Swedish equivalents (e.g. *go out/gå ut; break out/bryta ut*). A few items also comprised one-part verbs with formal lexical equivalents in Swedish (e.g. explode/explodera). From what was said above the next hypothesis could be derived.

Hypothesis 2: Swedes tend to commit fewer errors among test items where the correct alternatives are Swedish-based (phrasal and/or one-part verbs) than among items with non-Swedish-based correct alternatives.

It is also assumed that the advantages due to the lexico-semantic similarity that Swedes can be expected to have over Finns ought to be greater among items with Swedish-based alternatives than among items with non-Swedish-based ones. According to Taylor (1975), these differences could be expected to be greatest in the early stages.

Language distance is displayed very saliently in that the analytic construction phrasal verb occurs in Swedish and English, but not in Finnish. Bearing in mind that the L1 influence has proved strong at more elementary stages of learning (Taylor 1975), it would be reasonable to expect Finns to "under-use" or even avoid English phrasal verbs initially. The next hypothesis would then be as follows:

Hypothesis 3: Finns tend to choose idiomatic phrasal verbs less often than Swedes in the early stages of learning.

Research question 2.

Let us now consider research question two, which treats the possible effects of quantity and quality of input in the acquisition of phrasal verbs. As far as amount of input is concerned, native speakers of English constitute the optimal case in that they have been exposed to input as highly context-embedded communication ever since their childhood. The second-language input that school learners have been exposed to could, on the other hand, be characterized as context-reduced and decontextualized. In a choice situation between language-specific (idiomatic) phrasal verbs and semantically more general and central one-part verbs, it could therefore be postulated that learners (Finns as well as Swedes) would choose one-part verbs considerably more often than native speakers (a play-it-safe strategy). The fourth hypothesis would then be that:

Hypothesis 4: Learners (Finns as well as Swedes) tend to choose phrasal verbs less often than native speakers of English, especially in the early stages of learning.

Let us then return to the two central concepts of research question two, namely quantity and quality of input. From the perspective of the second-language learner, quantity of input is primarily to be seen as the years of English instruction learners have received in a context-reduced classroom setting (cf. Cummins' CALP concept). Quantity of input can to a certain extent be supplemented by the amount of written and spoken contacts learners have had with English outside the classroom. By quality of input is here implied that the input is to be characterized either as predominantly context-embedded (i.e. natural input in an English-speaking country) or context-reduced and formal (i.e. the type of input encountered in classroom settings). An interesting question is whether increased quantity of classroom input makes any difference as far as the acceptance of English phrasal verbs are concerned. It is assumed here that classroom instruction must, in the long run, have an effect on the acceptance of phrasal verbs. Our fifth hypothesis therefore states that:

Hypothesis 5: Learners who have received a large quantity of classroom input (i.e. more advanced learners) tend to prefer phrasal verbs more often than learners who have received less classroom input (i.e. less advanced learners).

An interesting question is whether the quality of input makes any difference in the acquisition of phrasal verbs. In other words, what differences are there in the learning effect if, on the one hand, the phrasal verb has been acquired in an extremely context-embedded situation or, on the other hand, in an extremely context-reduced situation? It has been assumed that the meanings of many phrasal verbs (as well as other idioms, proverbs and the like) are sometimes so closely tied up with extralinguistic details, the social and cultural history of the target language that their understanding presupposes what has been called socio-cultural competence. Therefore, an active command of many phrasal verbs cannot be achieved without a very long period in an English-speaking country. Hypothesis six can therefore be formulated as follows:

Hypothesis 6: The longer period of time learners (irrespective of L1) have spent in an English-speaking country, the more their performance will approximate that of native speakers in a test with phrasal verbs.

What also seems to be related to input is the phenomenon of U-shaped behaviour. This phenomenon has primarily been documented in the acquisition of holophrastically perceived target language units (prefabs, chunks, idioms etc.). In some recent studies (e.g. Sharwood Smith & Kellerman 1989), it has been argued that L1 influence plays a critical role in the manifestation of U-shaped behaviour. The curve with its typical drop in the learners' performance has been found to occur in the performance of fixed, multi-word expressions which have equivalent expressions in L1. Beginners, who are more surface-oriented in their concerns, are believed to make the initial assumption of parallels between L1 and L2 (cf. Ijaz 1986). This 'strategy' will often yield a target language-like expression as a result. More advanced learners who have received more instruction will be metalinguistically more sophisticated. The learner will thus become sensitized to new semantic and pragmatic distinctions and his initial assumption of L1 and L2 equivalence has to be altered. This phase, which is guided by internally-generated, top-down processes, will often lead to a drop in the performance. At the very advanced levels, when learners have been exposed to a considerable amount of language instruction (combined with natural language input), the learner language will once again approximate near-native performance. Applying this to the performance of English phrasal verbs, the next hypothesis would run as follows:

Hypothesis 7: Swedes tend to choose Swedish-based phrasal verbs in a U-shaped fashion so that they are preferred more at early and advanced stages, but less (i.e. avoided) at intermediate stages of learning (especially if the phrasal verbs are idiomatic).

Research question 3.

In research question three, the effects of different semantic properties of phrasal and one-part verbs on learnability and transferability are examined. The hypotheses derived from this research question are formulated from the point of view of phrasal verbs, but it is to be understood that the whole context including the meanings of the one-part verbs and distractors should be considered in the interpretation of the test results. It has been alleged that words occurring in their core or prototypical meanings are transferable and are, on the whole, easy to learn. It could then be assumed that phrasal verbs in which the meanings of the constituent parts are transparent and, as a consequence the whole expressions receiving a non-idiomatic meaning, would be 'easier' and more frequently chosen than idiomatic phrasal verbs. A plausible hypothesis would then be that:

Hypothesis 8: Both language groups tend to make fewer errors in test items with non-idiomatic phrasal verbs than in items with idiomatic phrasal verbs.

The verb element in the non-idiomatic (transparent) phrasal verbs that were used in the test instrument (see appendix) comprised high-frequency verbs with multi-purpose meanings. These verbs could semantically be characterized as more or less universal, their meanings were at least common to a wide range of languages (thus almost all of these phrasal verbs were Swedish-based). They expressed notions that were very central to most human languages, e.g. 'motion' (*come/go*) and 'direction' (*take/put*)(cf. Viberg 1993). It could be assumed that 'phrasal verbs' derived from such 'idiom-prone' verbs are easy to comprehend, and are probably chosen proportionately more often than idiomatic phrasal verbs. In the next hypothesis it would then be stated that:

Hypothesis 9: Both language groups tend to choose non-idiomatic (transparent) phrasal verbs more often than idiomatic ones.

One interesting issue, which also pertains to Question three, is to compare how Finns and Swedes reacted to non-idiomatic phrasal verbs. Because of their universality and transparency of meaning, the non-idiomatic phrasal verbs were assumed to be attractive to both language groups (Hypothesis 8). Furthermore, these phrasal verbs were (almost) all Swedish-based, and some of them had a structural and semantic frame close to Finnish (e.g. *go out/"mennä ulos"*). It is assumed here that Finns (they had all studied Swedish at school) cannot help making cross-language links between Swedish and English. Therefore, it is believed that Finns, at least in early stages of learning, are very inclined to choose non-idiomatic phrasal verbs of the kind described above. Swedes are of course making the same kind of cross-linguistic links, but some of the Swedes will probably be suspicious about these phrasal verbs because they are too Swedish-like. This leads up to the last hypothesis, namely that:

Hypothesis 10: Finns tend to choose non-idiomatic (Swedish-based) phrasal verbs more often than Swedes, especially in the early stages of learning.

5. Method

The main purpose of this study was to reveal the conditions under which different types of L1 influence tend to occur in the acquisition of English phrasal verbs among Finns and Swedes. It was believed that bilingual Finland would provide us with unique opportunities to compare how speakers of two unrelated languages (Finnish and Swedish) learn a common foreign language (English). The rationale behind the study was that Finns and Swedes in bilingual Finland are (or can be made) equal with respect to many crucial background variables (e.g. motivation, age, cultural factors, socio-economic and educational factors, cf. section 4.1, p. 94).

5.1. General design of the study

The present study was originally motivated by the study undertaken by Dagut and Laufer (1985) with Hebrew learners and the one by Hulstijn and Marchena (1989) with Dutch learners reported on earlier (section 4.3, p. 107). These two studies were concerned with the reasons for the under-use or avoidance of English phrasal verbs that has been reported among learners with different source languages. As was mentioned in section 4.3, Dagut and Laufer argued that these tendencies were indirectly due to L1 influence (structural reasons), whereas Hulstijn and Marchena believed that the reported avoidance could also have been caused by the semantic properties of the phrasal verbs. The rationale behind the test design in both studies was to try to place learners in a choice situation between phrasal and synonymous one-part verbs (e.g. *turn up* versus *appear*). The purpose of Hulstijn and Marchena's study was to challenge Dagut and Laufer's structural interpretation of Hebrew learners' avoidance behaviour. Part of the avoidance behaviour can no doubt be explained in terms of a negative influence from the first language (L1), i.e. that L2 constructions with no counterparts in the L1 system tend to be avoided. However, avoidance may also be 'doubly determined', i.e. caused by other factors (e.g. semantic properties of the items to be learned) and not by structural L1 influence only. As was suggested earlier, the two studies above were not considered fully comparable for methodological reasons. Although these two studies supplemented each other to some extent in that one of the studies used speakers of a non-Germanic language (i.e. Hebrew) and the other speakers of a Germanic language (i.e. Dutch), a comparison of the responses of the Hebrew and Dutch learners was not possible. As was already mentioned in section 4.3, test items and testing procedures as well as level of English proficiency were partly different in the two studies.

The situation in Finland could, however, provide us with unique opportunities to pursue a study similar to the two mentioned above and many of the methodological weaknesses in the two previous studies could easily be removed.[18] The idea behind the study undertaken here was to give the same test to comparable Finns and Swedes at four levels of English proficiency. The test used was a multiple-choice test with each item containing two correct alternatives, a phrasal verb (which was preferred by native speakers) and a "synonymous" one-part verb (along with two distractor verbs)(see appendix 1). The subjects taking the tests were not informed about the nature of this test; they were asked to choose one alternative, the one that best fitted the context. To ascertain that the phrasal verb alternative was a more 'native-like' response, native speaker informants were used. To be able to identify potential avoidance of responses (i.e. phrasal verbs), action was taken to create a choice situation between phrasal and equivalent one-part verbs (i.e. the two correct alternatives). Avoidance can be said to take place only if both the phrasal verb and the corresponding one-part verb are available to the learner. Therefore, as Hulstijn and Marchena put it, "the learner should be at least passively familiar with both verbs, ruling out ignorance as an explanation for nonuse" (1989, 243). Thus the data elicitation instrument and procedure should at least to some extent have the capacity to separate between avoidance and ignorance (or incomplete knowledge). To ascertain this, the study was carried out in two phases. The first phase comprised a pilot study in which the items were pretested. The purpose of the pilot study was primarily to ascertain that both of the correct alternatives were familiar to the subjects the test was meant for. To achieve this goal, the participants in the pilot study were asked to underline all unfamiliar words/expressions they found in the test (in the item context and among the four alternatives given in each multiple-choice item). Information about the test characteristics was also obtained by a brief interview with the testees after the testing sessions. Finally, an item analysis of the test items was undertaken (infrequently chosen alternatives were interpreted as unavailable to the learner). The main purpose of the pretesting and the pilot study was to develop a more efficient and more adequate tool for a later, more extensive study (i.e. the main study). A secondary aim of the pilot study was to seek guidance for more precise formulations of the questions in the main study.

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[18] As a matter of fact, some of the methodological weaknesses mentioned above have been eliminated in a more recent study by Laufer and Eliasson (1993), where the avoidance behaviour of Swedish and Hebrew learners' performance in a test on English phrasal verbs was compared.

The idea was that the evidence for avoidance would be stronger if learners (Finns and Swedes) in a choice situation between a phrasal and a one-part verb preferred the one-part verb in cases where native speakers of English chose the phrasal verb. Therefore, native speakers of English were asked to assess the test items. The results of the native speakers' judgements showed a strong preference for phrasal verbs both in the pilot and the main study. In the design of the study, it was assumed that if Swedes showed a greater inclination to choose phrasal verbs than Finns, it could be taken as evidence in support of indirect structural influence from L1 (i.e. Dagut & Laufer's view). The similarity of the morphosyntactic characteristics of phrasal verbs in Swedish and English might have facilitated learning for Swedes. But on the other hand, if both language groups tended to choose especially opaque phrasal verbs considerably less often than native speakers, this could be so because these verbs have a more specific (idiomatic) meaning than their one-part counterparts. In this case, the avoidance would stem from semantic properties of the target language items. In Hulstijn and Marchena's study, it was also hypothesized that the tendency to avoid phrasal verbs would diminish with increasing English proficiency (1989, 243). From a general point of view, this hypothesis is also adhered to in this study, but the tendency to choose phrasal verbs is believed to be affected by a number of other factors. As was suggested in section 3.4. (pp. 77-81), second language acquisition is today seen as a non-linear, discontinuous process. Thus, the acceptance pattern of Swedish-based phrasal verbs (especially idiomatic ones) was believed to be U-shaped among Swedes. It is argued here that cross-linguistic influence plays a role in the manifestation of U-shaped behaviour. Similarly, non-idiomatic, Swedish-based phrasal verbs are believed to be frequently accepted by Finns (even more than by Swedes) in the initial stages of learning. The investigation was consequently designed to include (a) subjects differing in English proficiency (four proficiency levels), (b) compararable Finnish- and Swedish-speaking subjects representing all four levels of proficiency, and (c) test items with Swedish-based phrasal verbs (idiomatic and non-idiomatic), as well as non-Swedish-based phrasal verbs.

One of the issues in this study was concerned with how the amount of input a learner has received in a context-embedded situation (i.e. natural input) affect second language learning (i.e. the acceptance or rejection of English phrasal verbs). This information was obtained by means of a questionnaire given to all subjects. In addition to the period of time learners have spent in an English-speaking country, the questionnaire also asked for information about the learners' general background (other contacts with English outside school, school grade in English, other languages studied at school, age, sex). The purpose of the background questionnaire was to obtain information in order to check the comparability between the Finnish and Swedish participants in the study.

5.2. Development of a data collecting instrument

A data collecting instrument was designed with the hypotheses presented in Chapter four in mind. As was already suggested in section 5.1, a multiple-choice test was used in this study. There are of course different procedures for collecting evidence on factors (such as L1) influencing the use or non-use of phrasal verbs among second language learners. As a matter of fact, it has been alleged that the type of data collection instrument will affect the test results (Hyltenstam 1983, 60 ; Hulstijn & Marchena 1989, 243). The choice of "experimental" elicitation data rather than spontaneous speech data produced by learners was very much determined by practical and economical reasons.[19] But the use of elicitation procedures may also be problematic; they may for instance produce different results depending on what kinds of tasks learners are asked to solve. Similarly, it was assumed that different types of instruments will tend to elicit at least partly different kinds of language knowledge (cf. Melka Teichroew 1982). Thus, as suggested by Hulstijn and Marchena, it can be assumed "that testing materials, instructions, and administration procedures may differentially affect avoidance behavior," (1989, 243).

The study presented here was only partly designed along the lines that had been followed by Dagut and Laufer (1985) and Hulstijn and Marchena (1989). In these two studies data were elicited by three different tasks: (a) a multiple-choice task, (b) a memorization task, and (c) a translation task. These studies were expressly focused on avoidance and the three tasks above differ with regard to the extent to which they are making the verbs (phrasal versus one-part verb) between which the test takers have to choose explicitly available (Hulstijn & Marchena 1989, 243). Thus Hulstijn and Marchena maintain that the memorization task ought to produce the strongest evidence, i.e. if the responses were nonphrasal verbs even though phrasal verbs had been given to memorize. The multiple-choice task also provided fairly strong evidence for avoidance if learners were to choose nonphrasal verbs and not the native speakers' preference for phrasal verbs. The translation test produced the weakest evidence, because there was no way to find out whether the phrasal verb had been considered (and rejected) in cases where the nonphrasal translation was given (Hulstijn & Marchena 1989, 244).

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[19] The use of computerized learner corpora in second language acquisition research will probably prove useful in the future. As a matter of fact, a project collecting corpora of advanced EFL learner writing has recently been started. A study on phrasal verbs would require a corpus of spoken, colloquial learner English. See Granger (1993, 1994).

The study presented here differs in several respects from the two studies mentioned above. Let us first consider the data-collecting procedures. The number of participants in the present study was considerably greater (N=1246) than in the previous studies and the data were drawn from four fairly advanced levels of proficiency. Identical tests were given to comparable learners from two different language groups, i.e. learners with a non-Germanic language (Finnish) and a Germanic language (Swedish) as their mother tongues. The background variables were more controlled than in the previous studies. The data elicitation instrument comprised only one test type in the present study, i.e. the multiple-choice test.

Secondly, the problems posed in this study were somewhat different from those in the previous studies. One central question is undoubtedly the one pertaining to factors governing the alleged avoidance of phrasal verbs among second language learners. But in this study phrasal verbs were also treated more generally, e.g. in relation to learnability (phrasal verbs have been alleged to constitute a great learning problem) and U-shaped learning. So an over-arching aim of the study was therefore to make a contribution to the development of a theory of second language acquisition (cf. Chapter four, research question four).

Because the avoidance phenomenon was one of the research questions of this study, a test along the lines of the previous studies was developed. It was established that a fairly extensive study could easily be administered in the Finnish context. To gain a better control over some of the methodological problems that cropped up in the previous studies, it was decided that the present investigation was to be carried out in two major stages. One of the central aims in the first stage was to develop a satisfactory data collecting instrument. Because the aim in the second stage was to carry out a fairly extensive study, it was decided that only one type of task (i.e. one test type) was to be required from the participants. The choice was between a memorization test and a multiple-choice test of similar type to those used in the previous studies. Because a memorization test was very difficult to administer and control (two test sessions were needed during two successive lessons) in an extensive study like this, including schools and universities throughout the country, it was decided to use a multiple-choice test. The advantages with a multiple-choice test were that it took only 20 minutes to administer and that it was quite easy to control.

The pilot study

The first stage of the study involved the development of a preliminary version of the data collecting instrument according to the guidelines presented in section 5.1. The idea was that a preliminary version of the test would, after being analysed on an item by item basis, result in a more stringent tool for the later main study (second stage). This pilot study would also, it was hoped, be of some help in the delimitation and specification of the research questions in the main study.

It was, however, not an easy task to construct a multiple choice test with two correct alternatives and two distractor alternatives. The starting-point in the process of test construction was to find pairs of phrasal verbs and synonymous one-part verbs that could occur in the same context. The selection procedure was restricted by the fact that only phrasal verbs which had good enough one-part counterparts could be chosen. In the process of item construction it was found, however, that surprisingly many phrasal verbs had quite reasonable one-part synonyms.

Our recent knowledge of English phrasal verbs seems to indicate that they are fairly frequent and that they represent the 'common core' of English. They have, by and large, been said to represent a less formal, almost colloquial style (cf. Sinclair & Moon 1989, iv; Cornell 1985, 269). One of the principles of test construction was therefore to create a context that was sufficiently 'colloquial' to fit the phrasal verbs chosen. This was done in consultation with two native speaker informants. The informants were both linguistically trained, possessed an academic degree and had a long experience of teaching English at university level. Another principle inherent in the test design was to create items where the phrasal verb alternative was preferred by native speakers. A third principle was that the test should contain phrasal verbs that represented two broad semantic categories. The first category could be characterized as semantically transparent or literal phrasal verbs whose meaning is very much the sum of their constituent parts (e.g. *go down, take out, go back*). The second category comprised semantically opaque or figurative phrasal verbs in which the combination of words has received a new meaning through a semantic fusion of the individual components (e.g. *turn up, let down, give in*). A fourth principle was to include phrasal verbs (opaque as well as transparent) that had a more or less equivalent expression in Swedish (e.g. English *go out* , Swedish *gå ut* ; English *break out*, Swedish *bryta ut*).

A problem with multiple-choice tests is, however, that they do not test only the target items, but also all the words in the context as well as the meaning of the distractors. Therefore they might be difficult to interpret. This multiple-choice test was, however, not designed to measure general language proficiency, but was designed to function as a research tool. The general requirements of item difficulty and item discrimination typical of tests of language proficiency were therefore not considered very important (cf. Harris 1969, 105). As has been suggested earlier, the main purpose of this multiple-choice test was to ascertain that the subjects to whom it was given found themselves in a choice situation (consciously or subconsciously) between the two correct alternatives (the phrasal and the one-part verb). In other words, the test design presupposed that the subjects should be at least passively familiar with both of the correct alternatives. The choice of distractors is also important, however.

In the following, the principles for selection and construction of the distractors in the test will be discussed. The formal 'structure' of the items (and distractors) was the same for all items. One of the distractors was always a one-part verb and the other a multi-word verb (most often a two-part verb). The one-part verb distractor was almost always a real verb which did not fit the context (there were a couple of exceptions, though, e.g. invented word formations like **outstand*). The multi-word verb distractor also very often comprised a real native expression, but also imaginary expressions occurred (such as **give after* and **stand out with* which were Swedish-based). The principles for the selection of distractors were the same as those used in ordinary multiple-choice tests on vocabulary. Very often, a distractor was included because of semantic similarity with another L2 word/expression (e.g. *erupt* for *go off/explode*). Sometimes, the choice was based on formal similarity with another L2 word/expression (e.g. *surround* for *surrender*). Some distractors were also chosen (or invented) because of formal and/or semantic similarity with L1 [e.g. **give after* (Sw. *ge efter*) for *give in*]. In the selection of two-part distractors, an attempt was made to use combinations which included the most credible and the most frequently used particles/prepositions (such as *up, down, off, out*) (cf. Sinclair & Moon 1989; Shovel 1991). The long toil with the items resulted in a preliminary version of the test (38 items).

Before this pilot test was administered to the learners, it was given to some native speakers (N = 6) for assessment. They were by profession all university teachers of English. The primary purpose of this was to find out the extent to which the phrasal verb alternatives were preferred by native speakers. The native speakers were instructed to mark the alternative that best fitted the context, but in addition they were also asked to mark other alternatives they found acceptable. This was done in order to make sure that each item would contain no more and no less than two acceptable alternatives.

The analysis of the native speakers' assessment showed that the majority of items worked fairly well. The phrasal verbs were preferred in 31 out of 38 items. Only in four items was the one-part verb preferred by the native informants; in three items the phrasal verb and the one-part verb were equally attractive. In the majority of items the native informants very definitely preferred the phrasal verbs. Thus in 22 items, none at all or only one of the native speakers preferred the one-part verb. The average percentage of preference for phrasal verbs for all 38 test items was 71.7 %.

The native speakers were additionally asked to make comments on the contextual authenticity of the items. This information was received partly as written comments and partly as the result of an interview with two native informants after they had completed the test. From the comments and interviews, it was found that the context on the whole was "nicely chosen", but in some items they might have a written "feel" to them. Suggestions for improvement were sometimes made to make the context appear less "written" and more informal and colloquial. Thus it was suggested that "improves" (in the pilot test) could be substituted for "gets better" in item 28 (Mr Peters' firm will *go under/collapse* unless business "improves"/"gets better"). Similarly, it was suggested that item 12 would be more colloquial as "The policeman *came into/entered* the bar and everybody ..." than as "When the policeman *came into/entered* the bar, everybody ...". One informant also pointed out that the original context in item 15, which was "Please, *take off/remove* your shoes before entering the mosque!" was ambiguous. If the context was interpreted as a written sign or an announcement, one would probably prefer *remove*, whereas *take off* would be more natural if the context was interpreted as an oral warning. In addition to certain contextual modifications, the feedback received from native speakers led in certain cases to the discarding of some items. Thus the items with the following four verb-pairs were all discarded because the native speakers tended to prefer thè one-part verbs (*enlist in/ join; pass by/ pass; go at/ attack; cut in/ interrupt*). The reason for discarding these items was that the design of the study presupposed that the evidence for avoidance would be stronger if learners chose one-part verbs even in cases where native speakers preferred phrasal verbs.

After this the pilot test was given to a small number of target group learners, i.e. to the same kind of learners it was designed for in the main study. Thus the test was administered to 46 Finnish- and 48 Swedish-speaking learners of English representing fairly advanced proficiency levels. The subjects were selected so as to form comparable groups among Finnish- and Swedish-speaking subjects. Half of the subjects comprised upper secondary school pupils from Finnish- and Swedish-speaking schools (Swedish "gymnasium"). The rest were university students some of whom had studied English at the university, as well as some university graduates. The tests were administered by the present author and an assistant in class, and were carried out in 8 - 9 different testing sessions. In the test instructions it was pointed out that the testees were to assume that the test sentences were written in normal, everyday and colloquial English.

The pilot test was administered to the target group for two main reasons. Firstly, it was believed to be important to establish that the test items were at an appropriate level of difficulty. Secondly, the pretesting was done in order to ascertain that both of the correct alternatives were familiar to the learners (at least passively). As was mentioned previously, information about this was obtained by (a) item analysis, (b) by the underlining of unfamiliar words and expressions and (c) by brief interviews held after the test events.

The "interviews" after the testing sessions were of two kinds. First, the test administrator asked the whole class for spontaneous reactions to the test. After this, two subjects were randomly chosen from each class for a brief personal interview. One of the most common comments in the interviews was that the test on the whole had not appeared to be very difficult. In many of the items, however, it appeared to be tricky to choose between two alternatives, a 'good' and a 'less good' one. Thus the criterion of choice seems to have been satisfied. The analysis of responses also supported this, because about 90 % of all responses were distributed among the two correct alternatives. The interviews also indicated that Swedes on the whole were aware that some phrasal verbs had Swedish equivalents. The close similarity with Swedish made, however, some Swedes sceptical about Swedish-based phrasal verbs. One of the interviews with a fairly advanced Swedish learner (a graduate) revealed that especially transparent, Swedish-based phrasal verbs (e.g. *go out; come out*) were believed to be Swedish-based, substandard English used only by Swedish beginners who were not yet familiar with the more native-like expressions (i.e. the one-part verbs). An interview with one of the Finnish-speaking graduates showed very much the reverse strategy. He tended to prefer phrasal verbs because he believed they had a more "expressive" meaning than the one-part verbs.

The instrument of the main study

The item analysis and general experience of the pilot study resulted in an edited version of the first version of the test. The revised version which was used in the main study comprised 28 items (see appendix 1). Thus ten items in the original test were discarded, the remaining ones were retained (some of them in a slightly modified form). Also the new version of the test was given to native speakers (N = 15) for judgement before it was used. The test instructions were exactly the same as those given in the previous test. The native English informants could be characterized as about middle age, well-educated, and mostly British (some Americans and an Australian were also included). Half of the native informants were trained linguists. 78.0 % of them preferred the phrasal verb alternative, which is noticeably more than in the pilot test (71.7 %)(see appendix 2). In two items, item 11 (*get through/pass*) and 22 (*get over/forget*), the one-part verbs were still preferred. If these two items were excluded, the preference for phrasal verbs increased further (81.4 %).

To be able to test some of the hypotheses, the test items had to be constructed according to certain principles. One of the central research questions in this study was to find out whether the avoidance of phrasal verbs was basically influenced by structural factors (i.e. L1) or by semantic factors, i.e. semantic features among the phrasal and the one-part verbs such as opaqueness, centrality of meaning etc. Two native speakers (they were both trained linguists) were therefore, independently of each other, asked to assess the phrasal verbs as well as the one-part verbs for their semantic properties. Two crucial semantic features were considered important. The first one, i.e. semantic transparency-opacity concerned the phrasal verbs and the other feature centrality-periphery of meaning was applicable to one-part verbs. The native informants were given precise definitions of these semantic features in advance orally as well as in writing. In addition, the semantic features were illustrated with typical examples. As was suggested in the description of the pilot study, a phrasal verb was defined as semantically transparent if the sum of the meanings of the individual parts (i.e. base verb + particle) was very much the same as the "fused" meaning. Thus the "fused meaning" of *fill in* (complete) has a similar meaning as *fill + in*. The phrasal verb was defined as opaque when the combined meaning (base verb and particle together) builds up a new and idiomatic meaning and is very much different from the sum of the meanings of its constituent parts. So *run down* (criticise) and *turn up* (appear) are examples of semantically opaque phrasal verbs.

The notion of central-peripheral meaning rests on the assumption that some meanings of a lexical item are more common or more representative than others. In works within the framework of lexical prototypes it has been observed that there are best examples, or best-fit members of a conceptual category (see section 3.2, p. 47). Thus the central meaning (or core meaning) of *pass* is something like "move and leave behind" or "move through", whereas *pass* meaning "being successful in an examination" as used in this test is a peripheral meaning of this lexical item. Intuitively, most of the one-part verbs in this study seem to have a more generic, or general meaning than their phrasal verb counterparts and their origins tend to be Latin or French (e.g. *explode / go off; postpone / put off*).

It is, of course, to be understood that these semantic properties are not best described as an either-or matter, but are more adequately described as a continuum. The two native speakers were, however, in most cases fairly definitive in their choice of semantic categories, but in certain cases they used a more fine-graded scale (see appendix 3).The result of the assessment made by the two native speakers indicated that the great majority (71,4%) of the phrasal verbs were rated as semantically opaque, whereas the equivalent one-part verbs on the whole were judged to have a central, non-specific meaning (82,1%). As is indicated in appendix 3, there were no major discrepancies between the judgements made by the two native speakers. In most cases (especially among the phrasal verbs) the native speakers gave the same responses. The phrasal verbs were further subdivided into Swedish-based phrasal verbs, e.g. *go down/gå ned; break out/bryta ut* and non-Swedish-based phrasal verbs, e.g. *let down/svika*. This categorization was made by the author in consultation with some colleagues. A phrasal verb was defined as Swedish-based if cross-linguistic identifications of Swedish-like elements were easily perceived in the English phrasal verb.

On the basis of the categorizations above, the test was divided into different subtests (see appendices 6, 7, and 8). The test was subdivided primarily on the basis of the semantic properties of the phrasal verbs. Thus all the items containing opaque phrasal verbs were referred to as *subtest O* (from opaque) and the items containing transparent phrasal verbs were brought together in *subtest T* (from transparent). As was mentioned earlier, the items were further subcategorized according to whether the phrasal verbs were Swedish-based (labelled *S+*) or non-Swedish-based (*S-*). Three subtests were primarily used in the study. *Subtest OS-* (13 items) comprised items with opaque phrasal verbs with no literal counterparts in Swedish, e.g. *make up/hitta på*. In *subtest OS+* (5 items), the items contained phrasal verbs that were Swedish-based and semantically opaque, e.g. *go through*(search)/*gå igenom*. Finally, *subtest TS+* (7 items) comprised semantically transparent phrasal verbs with literal Swedish equivalents, e.g. *take out /ta ut*. These three subtests comprised only items in which natives preferred the phrasal verb alternative. In item 11 (*get through/pass*) and item 22 (*get over/forget*) the one-part verbs were preferred by the native informants; these items were consequently not included in the subtests. As a matter of fact item 22 was discarded also because 'get over' and 'forget' could not be said to be as synonymous as the rest of the verb-pairs. Also item 13 (*get up/rise*) was excluded because it did not fit any of the three subtest categories (see Appendix 2). In the presentation of the results of this study (see Chapter 6), most analyses will start from the subtests presented above or different combinations of these subtests. In some analyses, however, the total test (28 items) could be used.

This is true, for instance, of the general comparisons between the number of errors made by Finns and Swedes (Hypothesis 1).

Because most of the hypotheses in this study were concerned with how and why learners made a choice between phrasal verbs and their one-part counterparts, both of which were acceptable English, very many erroneous responses were not expected or wished for. As a matter of fact, a concentration of responses on the pair of correct alternatives indicated that the testees on the whole had experienced a choice situation between two alternatives. On the other hand, the fact that erroneous responses did occur indicated that this choice situation was not always too apparent or too conspicuous to the testees. Because the testees comprised learners of differing levels of English proficiency, it was, after all, natural to expect that errors would be made, especially at the lower proficiency levels. In this study 'error' was defined as the choice of one or the other of the two alternatives in each item (i.e. the distractors) that native speakers did not accept as English. The number of errors provided a supplementary source of information, for instance in determining the general influence of language distance (Hypothesis 1). Similarly, an analysis of the sources of the errors might give supplementary support for some of the hypotheses.

A brief questionnaire (see appendix 1) was prepared in order to obtain some general background information about the subjects. Slightly different questions were given to the subjects from the upper secondary schools and to those from the universities (see 5.3). The questions were given in the subjects' mother tongues. The questions concerned firstly some general background information about the learners' school as well as their general linguistic background, but also such variables as sex and age were asked for. Secondly, a rough estimation of the learners' levels of English proficiency was made by asking for the number of years English had been taught as well as grade in English. Finally, an attempt was made to estimate the amount of natural input by asking about the period of time the learners had spent in English-speaking countries.

5. 3. Subjects of the study

As has been suggested earlier, Swedes and Finns in Finland can be assumed to be fairly comparable with respect to cultural and educational background (see section 4.1) The principles for selecting Swedish and Finnish subjects in this study will be discussed in this section. In the sampling procedure, two major aims were set up. The first aim was to try to select learners who were representative and typical of each language group (schools which are representative with respect to geographical spread, societal context, etc.). The second aim was to establish comparability between the two language groups with respect to different crucial background variables (educational background, age, gender, time abroad, contacts with native speakers etc.). It is also the aim of this section to demonstrate that the proficiency levels as defined here represent four successive levels of English proficiency. Finally, the comparability of these levels between Finns and Swedes will be discussed.

Representativeness and comparability of samples

The subjects were drawn basically from two different groups of learners, i.e. Finnish upper secondary school pupils and Finnish university students. Let us start with the subjects from the upper secondary school level (Swedish "gymnasium"). Fourteen schools were selected altogether; seven from each language group. Measures were taken to select a representative sample from each language group, a fact that should guarantee a certain degree of comparability between the Finnish- and Swedish-speaking subjects.

As was mentioned earlier (section 4.1), the Swedish-speaking population in Finland inhabits partly the western coastland (around Vaasa) , and partly the coastal areas of southern Finland (from Turku to Kotka). Thus somewhat more than one third of the Swedish upper secondary school pupils (34.5 %) were selected from three middle-sized schools in the *Province of Vaasa* (V), whereas the rest (65.5 %) were chosen from four larger schools in southern Finland, i.e. in the *Province of Uusimaa* (U) and the

Province of Turku and Pori(TP). The percentages above correspond well with the proportion of the Swedish population living in these areas. On the whole, the seven schools could be said to represent fairly well the urban, industrialized and the rural, non-industrialized parts of the Swedish-speaking population in Finland.

Similarly, the upper secondary school pupils among the Finns were selected so as to form a representative sample of the Finnish-speaking population in Finland. Because a great proportion of the Finnish-speaking population is concentrated in the industrialized southern and south-western parts of the country, two schools were selected from the urban, industrialized parts of the *Province of Uusimaa,* and two more schools from the semi-urban parts of the *Province of Turku and Pori*. The remaining three schools were situated in less industrialized and less urbanized parts of the *Provinces of Häme* (H), *Kymi* (K) and *Lappi* (L) respectively.

As was suggested earlier, one of the major assumptions made in this study was that Finnish- and Swedish-speaking subjects would be comparable. Let us first deal with the upper secondary school pupils (who, in fact, represented two proficiency levels of English, i.e. those who had completed the first form (level 1) and those who had completed the second form (level 2) of the upper secondary school). As far as the number of subjects is concerned, the two groups were very equal (the number was 496 and 506 for Swedes and Finns respectively). Because the curricula followed by both language groups were almost identical (see 4.1), the linguistic school background could also be expected to be similar. As has been mentioned earlier, the learning of the other group's language is obligatory. In the sample of Finnish upper secondary school pupils, 95.1 % had studied Swedish from the seventh form, whereas most of the rest had started earlier (usually in the third form). In the Swedish sample, 95.8 % had started Finnish in the third form, whereas the rest had started later (usually in the fifth form). English was, not surprisingly, read by 100 % of both language groups. Among the optional languages, German was by far the most popular language for both language groups (chosen by two thirds). French, which was the next popular language, was chosen by no more than one fourth of the pupils. Russian was chosen by relatively few, mostly in Finnish schools.

The two language groups were compared also with respect to whether the school was located in a predominantly *urban*, *semi-urban* or *semi-rural* area. In this study an *urban* school was defined as one that was situated in an urbanized area with more than 50.000 inhabitants. If the school was located in a small town with 8.000 - 20.000 inhabitants, it was classified as *semi-urban*. Finally, schools situated in the countryside, in church villages and the like were termed *semi-rural*. In the tables below, the most crucial characteristics of all the participant schools are listed for comparison. The same abbreviations of provinces as those above are used in the tables.

Table 1. *Crucial characteristics of Swedish-speaking schools.*

School type	Province	N. of subjects	Mean score	Std. Dev.
1. Urban	U	73	26.53	0.20
2. Urban	V	63	26.11	1.95
3. Semi-urban	U	93	25.19	2.56
4. Semi-urban	TP	97	24.96	2.58
5. Semi-urban	U	62	24.68	3.38
6. Semi-rural	V	31	24.68	2.17
7. Semi-rural	V	77	24.21	2.59

Tables 1 and 2 show that the school types (urban, semi-urban, and semi-rural) were comparable between the language groups (exactly the same types of schools occurred in both samples). Let us then look at the column of provinces. There are Swedes living in primarily four provinces in Finland, but the province of Åland was not included in the study because of its semi-independent status. As a matter of fact, Åland has its own school laws and is culturally and linguistically somewhat different from the rest of the Swedish-speaking parts of Finland.

Table 2. *Crucial characteristics of Finnish-speaking schools.*

School type	Province	N. of subjects	Mean score	Std. Dev.
1. Urban	U	8	23.75	2.87
2. Urban	U	64	22.88	3.58
3. Semi-urban	TP	168	21.94	3.19
4. Semi-urban	H	20	21.85	1.98
5. Semi-urban	TP	74	21.72	3.70
6. Semi-rural	K	75	21.99	3.19
7. Semi-rural	L	97	20.86	3.42

Finnish is a majority language in all provinces in Finland except in Åland. As table 2 above shows, the sample of Finnish schools seems to cover most parts of Finnish-speaking Finland; the central and the eastern parts could possibly have been better represented, though.

The tables also indicated that there might be a relationship between school type and score in the test on phrasal verbs. Pupils in urban schools tended to score somewhat better than pupils in other kinds of schools, and pupils in the semi-urban schools tended to do slightly better than the pupils in the semi-rural schools. These trends were equally true of both language groups.

The comparability of the two language groups was assessed also with regard to possible sex differences. The table below shows the distribution of females and males among the Swedish- and Finnish-speaking upper secondary school pupils.

Table 3. *Number of females and males among the Swedish- and Finnish-speaking secondary school pupils.*

		Females	Males
Swedes	N	276	219
	%	55.76	44.24
Finns	N	293	213
	%	57.91	42.09

$\chi^2 = .47$; df = 1; $p > .05$ (ns)[20]

The chi square analysis indicated no differences between the two language groups as far as the sex distribution was concerned ($p = 0.49$). The conclusion is therefore that Swedes and Finns are comparable with regard to sex distribution.

Because the Finnish- and Swedish-speaking pupils were drawn from the same forms in the Finnish upper secondary school, no age differences were to be expected between the language groups. As is indicated in table 4 below, the average age is slightly below 17 for both language groups.

Table 4. *Age differences between the Finnish- and Swedish-speaking upper secondary school pupils.*

	Number	Missing values	Mean age	Std. Dev.
Swedes	496	0	16.92	0.76
Finns	503	3	16.97	0.79

A t test revealed no significant differences between the language groups ($t = 1$; Prob. (2-tail) = 0.32). To sum up, it seems that the Finnish- and Swedish-speaking secondary school pupils were representative and typical of their respective language groups. The Finnish and Swedish schools could also be considered comparable with respect to such factors as geographic spread, representativeness of community types (urban/rural), sex distribution and age.

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[20] *ns* stands for non-significant

Let us then go to the other main group of subjects in this study, i.e. the university students. In Finland, education at the university level is given in Swedish primarily only at the Swedish-speaking Åbo Akademi univerity and in certain subjects at the University of Helsinki. Apart from a small number of university students who were drawn from the university of Vaasa, almost all the Swedish-speaking students in this study were selected from the Åbo Akademi university. The Finnish-speaking students were drawn from five different universities in Finland (see Table 5).

On the whole, the Finnish- and Swedish-speaking subjects could be considered comparable also among the university students. The number of subjects was more or less equal (the number of Swedes was 112 and Finns 132). Possibly the sample of Finnish-speaking university students could be considered somewhat skewed in that the eastern parts of Finland was over-represented (Joensuu/Savonlinna). In the table below, the geographic locality of the universities as well as the areas from which the students were recruited to these five universities are characterized.

Table 5. *Crucial characteristics of the universities from which Finnish-speaking students were recruited.*

Locality of university	Characterization of recruitment areas	Number of subjects	Mean score	Std. Dev
1. Tampere	Urban ; industr.	29	27.14	1.62
2. Turku	Urban ; industr.	16	26.00	2.53
3. Rovaniemi	Rural; semi-urban	9	25.67	1.94
4. Vaasa	Rural; semi-urban	10	24.80	2.10
5. Joensuu/ Savonlinna	Rural; semi-urban	68	24.32	3.08

Table 5 seems to indicate that students from urbanized areas (university 1 and 2) would tend to score better in the test. This is not necessary true because about 60 % of the students from these two universities were third year students majoring in English. Universities 3 and 4 comprised only students majoring in subjects other than English (and were mostly third-year students). In university 5, however, slightly more than 50 % were first-year students, but a small proportion (18 %) were third-year students majoring in English.

Also among the university students, the two language groups were compared with respect to sex differences. The distribution of females and males among the Swedish- and Finnish-speaking university students is indicated in the table below.

Table 6. *Number of females and males among the Swedish- and Finnish-speaking university students*

		Females	Males
Swedes	N	88	24
	%	78.57	21.43
Finns	N	93	39
	%	70.45	29.55

$\chi^2 = 2.08$; df = 1; $p > .05$ (ns)

The chi square analysis above showed that the difference in sex distribution between the two language groups was not statistically significant ($p = 0.15$). In conclusion, Swedes and Finns are comparable with regard to sex distribution also among university students. It is interesting to notice that females dominated the university students among both language groups. The reasons for this must be that the students tended to be drawn from degree programs containing academic subjects which traditionally have attracted women more than men (e.g. languages, education, social sciences, etc.).

Finally, a comparison of age between the Swedish and Finnish university students was made. Not surprisingly, the university students were about seven years older than the upper secondary school pupils in both language groups (cf. table 4).

Table 7. *Age differences between the Finnish- and Swedish-speaking university students.*

	Number	Missing values	Mean age	Std. Dev.
Swedes	111	1	24.59	5.12
Finns	132	0	24.12	5.26

The age differences between the two language groups are not statistically significant (t = 0.71; Prob. (2-tail) = 0.48).

To sum up, the above examination of the sampling procedures as well as the comparison between Finnish and Swedish subjects of the learner background characteristics and the input characteristics seem to indicate that the two language groups were roughly comparable.

Comparability of four levels of proficiency between Finns and Swedes

The subjects drawn from the upper secondary school were, for both language groups, further subdivided into two major groups according to their presumed standard of English proficiency, i.e. level one and two. Level one and two comprised pupils who had completed the first and second form of the upper secondary school respectively. The university students represented, on average, third year university students. Also these subjects were divided into two groups according to their presumed command of English, i.e. level three and four. Level three comprised students who were enrolled in degree programs where a considerable part of the course books were in English (students of economics, social sciences etc.). These students had completed all three forms of the upper secondary school and had passed the Finnish national matriculation examination (Swedish "studentexamen"). The level four students had the same educational background as those in level three, but they were majoring in English. The total number of subjects taking part in the study is shown in table 8 below.

Table 8. *Number of participants at four levels of proficiency.*

	Level 1	Level 2	Level 3	Level 4	Total
Swedes	272	224	84	28	608
Finns	294	212	93	39	638
Total	566	436	177	67	1246

As was suggested earlier, a major aim was to establish comparability between the Finnish- and Swedish-speaking subjects in the study. As indicated in table 8 above, the sizes of the samples were on the whole very similar for both language groups. The declining number of participants in the tests was due to the decreasing availability of subjects at the more advanced levels. Thus it could not be expected that very many Swedish-speaking students would fit the category third year university students of English, i.e. level 4; this is so because of the limited intake of students to the Department of English at Åbo Akademi.

In the following, the issue of whether the levels as defined above can be assumed to represent four distinct and successive levels of English proficiency will be discussed. Another related question is whether it is plausible to assume that each of these levels are comparable between Finns and Swedes. The level of English knowledge would have been reliably captured by means of a test of general English proficiency. For practical reasons no such test was used. The four levels of English proficiency were instead defined and operationalized by means of primarily four criteria, namely (1) length of studies (in years), (2) school grade in English, (3) length of stay in English-speaking country, and (4) scores in the test that was used in the study. By a distinct, successive level of English proficiency is here meant that each of the proficiency levels defined above can, as estimated by means of the four criteria above, be said to be markedly (significantly) higher than the level it precedes.

If length of exposure to formal (classroom) instruction in English is to be accepted as an indication of language proficiency, we must also accept the general assumption that there is a positive correlation between time of exposure and level of language proficiency. Applying number of years of classroom exposure crudely, all the levels of proficiency as defined here no doubt represent four very distinct levels of successively increasing proficiency. This is true for both language groups.

Average length of studies in English in terms of years is probably not a good criterion for comparing level of English proficiency between Finns and Swedes. This is so because at the time when the comprehensive reform was introduced in Finland, Finnish-speaking pupils received two "extra" years of English in the lower level of the comprehensive school (Swedish "grundskolans lågstadium"). As has been mentioned earlier, Finns usually start English in the third form and Swedes two years later. Bringing length of studies to bear on years of study would therefore indicate that Finns, by and large, had received two more years of formal instruction than Swedes (6, 7, 8, and 10 years for the Swedes and two more years for each level for Finns). For the third-year students who were majoring in English (i.e. level 4), only two years had been used for studying English. This explains why the difference between level 3 and 4 is two, not three years. If there is a direct relationship between time of exposure and level of proficiency it would mean that the level of English proficiency must be slightly higher for the Finns in this study. It is argued here that this is probably not true for several reasons. Firstly, a check on the empirical data collected for this study showed that the difference in years of English between Finns and Swedes was somewhat smaller than two years (slightly more than one and a half years). Secondly, as far as the Swedes are concerned, the two years were at least partly compensated for by the fact that somewhat more hours of English per week had been given to Swedes in the upper comprehensive school (Swedish "grundskolans högstadium"). Finally, the most important reason is that Swedes, despite less exposure to classroom instruction, were likely to have an advantage over Finns because of the linguistic kinship between English and Swedish (cf. Ringbom 1987).

Let us then go to the grade in English and see what it reveals about the level of proficiency. The Finnish school system uses a seven-grade scale ranging from 4 to 10. Figure 5 below shows some interesting, but not very surprising results.

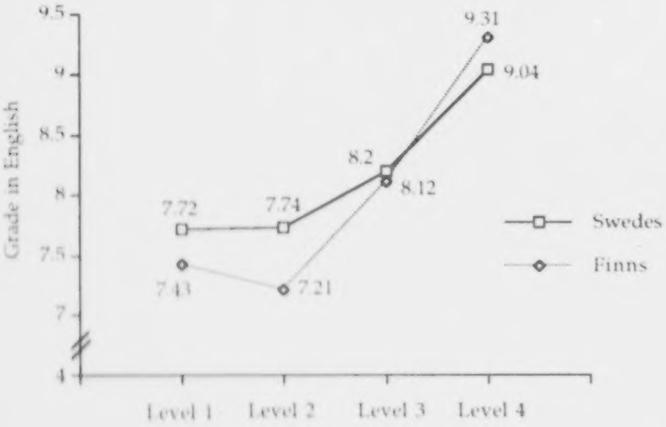

Figure 5. *Mean grades in English in levels 1 - 4 among the Swedish- and Finnish- speaking subjects.*

Let us first examine the shape of the curves for both language groups. Generally it could be observed that the form of the curve initially (level 1 and 2) tends to be flat, but from level 2 there is a fairly steep rise. As a matter of fact, the initial "flatness" was to be expected, because the pupils from level 1 and 2 were drawn from the same schools with the same teachers, something that makes it plausible to assume that the same criteria for assessment had been applied. As regards level 1 and 2, the grade in English is by itself not a valid measure to discriminate between proficiency levels. This is so because these two levels are to be seen as two representative samples of secondary school pupils whose proficiency of English is assessed within the same norm-referenced grading system (with grades ranging from 4 to 10). It is worth noting, however, that the average grade in level 3 (the university students) is considerably higher than in level 1 and 2. University students can hardly be said to be a representative sample of upper secondary school pupils. This is so because of the screening procedure undertaken with university entrants. As a rule only those applicants who have a high general standard in their school-leaving certificate from the upper secondary school (including a high grade in English) are admitted. Therefore it is assumed that the higher grade in English in level 3 indicates a more advanced level of English proficiency than in level 1 and 2. By far the best marks in English had been received by the students majoring in English (level 4). The grade in English at level four no doubt reflects a high level of English proficiency.

The next step was to establish whether these levels were comparable between Finns and Swedes. Therefore t tests were used to determine whether the average differences for each level were significant. The results are reported in table 9 below.

Table 9. *Measures of comparability of grade in English between Finns and Swedes at four levels of proficiency.*

	Average difference in grade	t value	Prob. (2-tail.)
Level 1	0.29	2.35	$p < 0.05$
Level 2	0.53	3.68	$p < 0.01$
Level 3	0.08	0.47	ns
Level 4	-0.27	1.53	ns

The table shows that the average grades in English were significantly higher for Swedes for level 1 (5 % risk level) and 2 (1 % risk level). The differences in level 3 and 4 were not statistically significant. The differences in level 1 and 2 may be accounted for in at least three ways. (1) Because the teachers for the two language groups were not the same, it is possible that the teachers in the Finnish schools might have used a somewhat more severe scale than those in the Swedish schools when giving the marks in English. (2) The differences may reflect the advantages Swedes have over Finns in succeeding in tests of English because of the close kinship between Swedish and English. (3) The differences may indicate that Swedes at level 1 and 2 represented a somewhat higher level of English proficiency. As far as grades in English are concerned, it seems to be a general trend that Finns are initially (level 1 and 2) at a disadvantage, but catch up with and even surpass the Swedes at the most advanced levels. It is not implausible to assume that the somewhat higher marks in English awarded to Finns in level 4 could have been a result of a harder competition for entrance to English in Finnish-speaking universities.

The third defining criterion for level of English proficiency was length of stay in an English-speaking country. Figure 6 shows the percentage of subjects who had been abroad for both language groups.

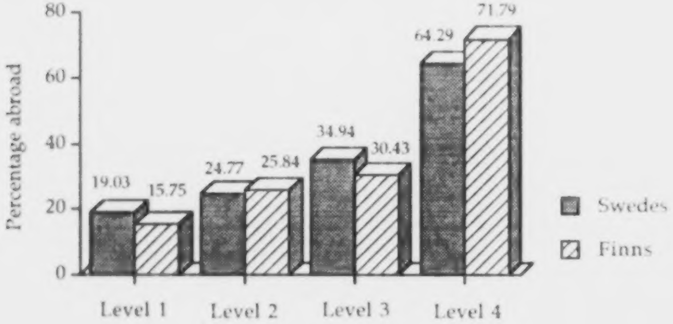

Figure 6. *Percentage of subjects who had been in an English-speaking country.*

Figure 6, which indicates the percentage of subjects who had visited English-speaking countries, shows an even increase from level 1 to 3 and a very steep increase from level 3 to 4. If it is correct to assume that a stay in an English-speaking country is beneficial to the mastery of English, the diagram above seems to be suggestive of distinct levels of proficiency, most conspicuously so level 4.

A comparison between the two language groups shows but slight differences. What perhaps catches the eye is that considerably more Finns than Swedes (at least seemingly) appear to have been abroad in level 4. A chi square analysis of the proportion who had been abroad (based on the proportion of those who had been abroad and those who had not) indicated no statistically significant differences between the language groups (see table 10 below).

Table 10. *Measures of comparability of Finnish- and Swedish-speaking subjects who had stayed abroad, at four levels of proficiency.*

Level 1	$\chi^2 = 1.05$;	df = 1 ;	ns	$(p = 0.30)$
Level 2	$\chi^2 = 0.06$;	df = 1 ;	ns	$(p = 0.80)$
Level 3	$\chi^2 = 0.40$;	df = 1 ;	ns	$(p = 0.53)$
Level 4	$\chi^2 = 0.43$;	df = 1 ;	ns	$(p = 0.51)$

Very much the same trends as above showed up in the average period of time spent abroad. In level 1, the subjects from both language groups had, on average, spent about half a month abroad, in level 2 the average time abroad was a little more than a month. The level 3 subjects had spent around two months abroad. On the whole, the differences were small between Swedes and Finns in levels 1-3. Interestingly enough, the Finnish students of English (level 4) had spent almost four months abroad, whereas the Swedish students of English had spent a little more than three months in an English-speaking country.

Is then the subjects' time of exposure to "natural input" (i.e. time in English-speaking country) a trustworthy indication of proficiency of English? One way of demonstrating this is to look at the relationship between the subjects' school grade in English and the time they had stayed abroad. Therefore the English school grades were compared between those who had no experience at all of being abroad and those who had stayed abroad one month or more. The results of these comparisons are illustrated diagrammatically for both language groups in figures 7a and 7b below. A very clear tendency can be discerned in the diagrams, i.e.

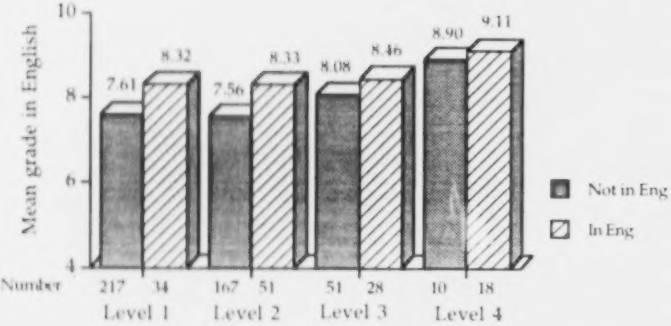

Figure 7a. *Grade in English among Swedish subjects who have no experience of being abroad and those who have been one month or more in an English-speaking country.*

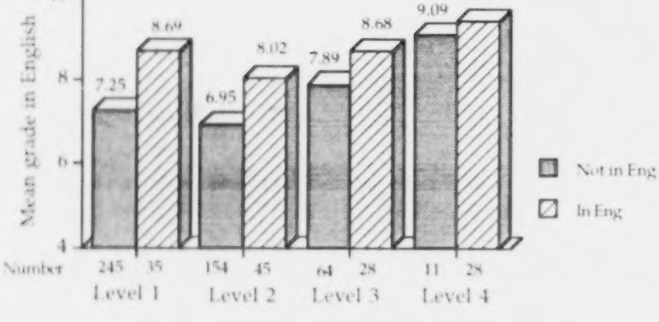

Figure 7b. *Grade in English among Finnish subjects who have no experience of being abroad and those who have been one month or more in an English-speaking country.*

the subjects who had visited English-speaking countries had considerably higher marks in English at all levels. This trend, which is most prominent in the earlier stages of learning, is slightly stronger among the Finnish subjects. These results can be explained in at least three different ways.

(1) The stay abroad had led to a better mastery of English which is indicated in higher grades in English.
(2) The stay abroad had led to an increased motivation for English studies with greater efforts and higher grades in English as a result.
(3) Those who had been abroad had from the very start had better marks in English, but also higher instrumental and integrative motivation, which is the reason why they had been abroad.

Probably, no single explanation is valid by itself, but the most plausible one is a combination of all the three explanations listed above.

Let us then consider the scores in the test on phrasal verbs used in this study as a measure of level of English proficiency. The obvious advantage of using the test scores is that it implies the use of the same test and the same scoring procedure for all subjects. A great disadvantage is, however, that the validity of these test results as a measure of general proficiency of English may be questioned. The test was primarily designed to reveal the learners' choice patterns between two correct alternatives (a phrasal and a one-part verb), only secondarily could it give some information about the learners' general language proficiency. Furthermore, the test was biased in the respect that it tested a construction of the target language (i.e. phrasal verbs) that had a counterpart in Swedish, but not in Finnish.

Despite these weaknesses, the test scores might be used as a supplementary measure to indicate differences between proficiency levels separately for each language group. The p values for each level are illustrated in figure 8 below. As has been mentioned earlier, the "broad" scoring procedure was used, i.e. both of the alternatives that had been judged acceptable by native speakers, were scored correct (cf. appendix 5).

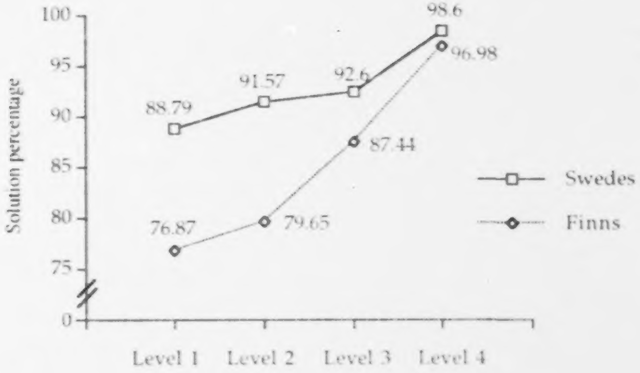

Figure 8. *P values in test at four levels (28 items).*

The curves in the diagram (Fig. 8) seem to indicate that the levels represent a successively progressive increase of English proficiency. This trend is true especially for the Finns. Because the test score was probably not a valid measure of general proficiency of English, it was not considered a reliable instrument for a comparison between Finns and Swedes. Suffice it here to say that the great differences displayed between Finns and Swedes at the lower stages of learning could, at least partly, be explained in terms of language distance (see 6.1. p. 158).

Four different criteria were set up to assess, on the one hand, if the four levels of English proficiency as defined in the beginning of this section were empirically founded and, on the other, if each of these levels were comparable between Finns and Swedes. Time of exposure to English (both in the classroom and in a natural situation) as well as the test scores suggested that the subjects represented four successive levels. In addition, the grade in English indicated a clear difference between level three and four. To sum up, it seems as if there was only a slight difference between level one and two, whereas the difference was somewhat more marked between level two and three. All four criteria showed that level four represented a considerably more advanced stage of proficiency than the three other levels.

It is somewhat harder to determine if the four proficiency levels were comparable between the two language groups. There were, however, statistically significant differences of grades in English between Finns and Swedes in levels one and two. Yet these differences could have been caused by factors other than level of proficiency, e.g. different applications of the assessment criteria among Finnish teachers, test taking advantages among Swedes because of close kinship with English etc. The conclusion, however, is that it is probable that Swedes represented a slightly higher level of proficiency at level one and two. No significant differences between Finns and Swedes were found in level three and four. These levels were therefore interpreted as comparable. There was, however, a slight tendency in favour of the Finns in level four (somewhat higher grades in English, somewhat longer period of time abroad).

5.4. Administration of tests and questionnaire

This section describes how the tests and the questionnaires were administered to the subjects who were characterized in the previous section. In addition, some of the problems met with in the administration of the tests will be discussed in some detail. Because the practical routines (as well as the questionnaires) were somewhat different for the upper secondary school pupils and the university students, these two major groups of subjects will be treated separately (see appendix 1).

The tests to the upper secondary school pupils were all administered in class by the teachers of English (except in two nearby schools where the testing was administered by the author of this study). Before the test material was sent out, personal telephone calls were made to the teachers of English (and in some cases to the headmasters) in all the fourteen schools that were selected (cf. 5.3). In the telephone calls, the teachers were given some general information about the character of the test. The teachers were told that the test would not take more than 20 minutes to complete, that the test results would remain strictly confidential (names of pupils or schools were not asked for) and that the aim of the test was to get new insights into the process of second language learning, not to assess the pupils' knowledge of English. It was also emphasized to the teachers that only one alternative was to be chosen per test item. As in the written test instructions, it was also stressed that the subjects were to assume that the sentences, although given in the written medium, had been written in normal, everyday and colloquial English. Judged by the conversations over the telephone, the teachers were favourably disposed towards the project. The teachers' favourable and supportive attitude was also calculated to increase the reliability of the test results. The tests were administered to the subjects at the end of April and the beginning of May, 1991. All the test papers and questionnaires were returned to the present author within one or two weeks.

Let us then go to the administration of the tests to the university students. To approximately half of the university students (which applied to Finns as well as Swedes), the tests and questionnaires were given in class in the same way as to the secondary school pupils. University lecturers kindly arranged the test sessions and sent the completed test papers back to the present author. Unfortunately, a sufficient number of students could not be reached in class in April and May. This was so because the periodic system of teaching differs widely in Finnish universities. It was therefore decided to try to reach the rest of the university students by sending the tests and questionnaires by post to their postal addresses. Alternatively, the rest of the tests could also have been sent in the autumn three or four months later. This was not done, however, for fear of the effect of the time factor. There was, however, a practical problem to be solved before the tests could be sent to the home addresses of the students. A newly established law forbids public institutions like universities to give access to personal data about their members (e.g. their addresses, their dates of birth etc.). Yet this kind of data can, on application, be made available to researchers. As a matter of fact, permission to use the student files was received from all universities. Although this caused a slight delay in the data collecting procedure, the tests could be sent to the rest of the students in the beginning of June. By the middle of June most of the tests were returned to the author. Replies were received from about 80 % of the students, which was considered satisfactory. It is a fact, however, that the students who received the test material to their home addresses completed the tests unsupervised by a lecturer. To neutralize the possible effects caused by difference in testing conditions, a letter was sent with the tests in which an appeal was made to the students to fill in the tests under certain specified conditions. In the letter it was stressed that no more than 20 minutes should be spent on completing the test and that no help should be sought from dictionaries or some native speaker expert. Likewise, it was stressed that the data was to be used for research. Because the students were adults (24-year olds) there is no reason to believe that they did not comply with the appeal.

5.5. Some remarks on reliability and validity

As has previously been mentioned, the main instrument used in this study was a multiple-choice test. This multiple-choice test was unusual in that it contained two correct alternatives, a first-priority, phrasal verb alternative as well as another acceptable, one-part verb alternative. The participants in the tests were, however, not aware of more than one alternative being correct. Tests have of course no intrinsic value in themselves, but should be designed for a clear purpose. It was hoped that this instrument would reveal learners' preferences for phrasal verbs in a choice situation. Generally, the instrument was meant to yield information about how English phrasal verbs are acquired (or not acquired) among learners. For a research tool to be efficient, it must possess certain statistical characteristics. A first requirement of a good test is that it possesses reliability, which has been defined as the accuracy or precision of a measuring instrument (regardless of what it measures) (Kerlinger 1973, 443). Reliability implies stability of the scores for the same individuals. If the test scores "tend to fluctuate for no apparent reason, the test is unreliable." (Lado 1961, 330).

The instability of a test may be due to many different factors.

First, the results may vary with the time a test is performed, but also with the situation in which it is taken. Different measures were taken to reduce possible harmful effects caused by external situational conditions. First of all, attempts were made to give the tests to all the subjects at the same time of the year (end of April, beginning of May). The test conditions were also controlled by giving the same instructions to all the subjects. Personal telephone calls to the teachers who were administering the tests seemed to guarantee a positive attitude towards the study. The subjects were probably also more or less unaffected by such factors as fatigue or emotional strain. This was so because the test took only 20 minutes to complete, and the time it was administered seemed to suit the schools well.

Instability of the test scores may, however, also result from limitations and imperfections of the test. These kinds of fluctuations, which may be due to lack of homogeneity in the items, can never be completely eliminated. The classical methods of estimating reliability with correlational studies do not seem to be fully applicable to this test. This is so because the instrument used in this study was not meant to comprise a homogenous set of items, but contained different subtests that were intended to capture different kinds of influences on the second language learning process. Instability or unreliability of the test scores may sometimes also be caused by scorer fluctuation. In this objective, multiple-choice test, however, "scorer fluctuation is practically nil and need not be considered as a factor." (Lado 1961, 331).

Achieving reliability is, however, to a large extent a technical matter, what really matters is validity. A broad definition of the validity of a test procedure is "the extent to which it does what it is intended to do." (Pilliner 1968, 30). When developing a new instrument for research, *criterion-related validation* (or predictive validity) can seldom be resorted to. By criterion-related validity is usually implied a comparison (or correlation) with one or more external criteria that are known or believed to measure the same as our test. One is not so much concerned about *what* the test measures as about its predictive validity. As Kerlinger points out, in criterion-related validation, we are often concerned with practical and applied research, the basic interest being "more in the criterion, some practical outcome, than in the predictors." (1973, 459). In fact, the very phrase *test validation* is not a felicitous one, because it may lead to the false conception of the test as a naked instrument. As has been pointed out by Cronbach, the test "is only one element in a procedure, and a validation study examines the procedure as a whole."(1971, 448). The suggestion made here is that there are at least three different processes in the test procedure that should be subject to validation (cf. Sjöholm 1986, 121).

(1) The process of content selection leading up to the construction of test items
(2) The test administration and measurement procedure
(3) The process of interpreting the test scores

The first two processes are basically concerned with the extent to which the items used in the test are representative of a specified universe of content. The representativeness or sampling adequacy of the content of a measuring instrument has been called *content validity* (Kerlinger 1973, 458). The crucial questions to be asked are whether the test procedure truly samples the universe of tasks the test constructor intended to measure or the universe of situations in which he would like to test. These tasks and situations are to be derived from the properties of the different constructs or universes of this study as specified in sections 5.1, 5.2, and 5.4.

Let us first briefly examine to what extent the phrasal verbs included in this test could be said to be representative of the theoretical universe of phrasal verbs. One way of doing this is to check if the verbal elements of the phrasal verbs are adequately chosen. In *Collins COBUILD Dictionary of Phrasal Verbs*, the verb *go* was found to be the verb that entered into the greatest number of combinations with different meanings (over 200). Then follow *put, get, come,* and *take*, which were all found in over a hundred combinations. In fact, 20 of the phrasal verbs (out of 28) in the test contained these verbs, and the most frequently used was *go*. In other words, the phrasal verbs seemed to be fairly well chosen on the basis of their verbal elements. What about the representativeness of the particles occurring in the test items? In the *Collins COBUILD Dictionary of Phrasal Verbs* it was found that the most common particles occuring in phrasal verbs are *up*, *out*, *off*, *in*, *on*, and *down*, in descending order of frequency (Sinclair & Moon 1989, 448). A check with the particles in the phrasal verbs used in this test showed that these particles occurred in 19 of the phrasal verbs (out of 28) and the most frequently used particle was *up*. Also the incorrect phrasal verbs contained 19 of the above listed particles, and here too, the particle *up* was the most frequently used. An analysis of the particles in the test also showed that all except one are adverbial (*into* from *come into* in item 12 is a prepositional particle). In fact, it has been found that the most important phrasal verbs and the ones that are most difficult for learners to understand are nearly always adverbial (see Goodale 1993, iv). Therefore it could be argued that prepositional phrasal verbs need not be included in the test to any greater extent. So it seems that if it is correct to assume that the *Collins COBUILD Dictionary of Phrasal Verbs* represents an adequate universe of phrasal verbs, then we can assume that the phrasal verbs used in this measuring instrument are representative.

Although it is important to establish the representativeness of the phrasal verbs from a general point of view, it is even more crucial to find out whether the test items represent an adequate tool to give answers to the research questions brought up in the study. In other words, are the items a representative instrument to capture such constructs as avoidance or under-use of phrasal verbs, L1-influence, influence of natural input, learning difficulty, U-shaped learning etc. Content validation of the above kind is basically judgmental (Kerlinger 1973, 459). The test constructor judges alone or with others the representativeness of the items. The process of item construction and item validation was described in some detail in section 5.2. Different measures were taken to increase the validity, among other things by running a pilot test and by using native speaker judgments. Let us finally make some remarks on the sampling adequacy of the situations in which the data were collected. These aspects of validity were, however, to some extent treated in section 5.4. The situations in which the data were collected were no doubt fairly controlled, but what could be questioned is the generalizability of the results to less formal situations of learning. Finally, as was partially dealt with in section 5.4, the teachers' attitudes towards the tests and the test procedure appeared to be a positive one, which is undoubtedly of some importance (cf. face validity in Davies 1968, 9).

As soon as the researcher or test constructor starts to inquire into the "meaning" of a test, we are dealing with the third of the important processes that should be validated, i.e. that of interpreting the test scores. It is now important to know what factors or constructs account for the variance in the test performance. When researchers want to know what psychological or other properties "explain" the variance in the test scores they are looking into the *construct validity* (Kerlinger 1973, 461). It has been alleged that construct validity signifies one of the most important advances in modern measurement theory and practice in that it unites psychometric notions with theoretical notions.

There are at least three aspects to construct validation: "suggesting what constructs possibly account for test performance, deriving hypotheses from the theory involving the construct, and testing the hypotheses empirically." (Kerlinger 1973, 461). In fact, construct validity comes very close to the principles underlying empirical scientific inquiry. It is not just the test that is validated, but the whole theory behind the test is subject to validation. To a great extent, construct validation (like content validity) consists in judgment. Thus it should be possible for an expert or a native speaker to identify the constructs central to the theory as a defined class of responses. Judges should, for example, be able to separate between opaque and transparent phrasal verbs in a predictable way. The assessment of construct validity also implies that the test constructor is making predictions of hypothesized relations between the theoretical constructs. Finally, in the last phase, the theoretically derived hypotheses should be tested empirically. The testing of alternative hypotheses is an essential part in the assessment of construct validity "because both convergence and discriminability are required." (Kerlinger 1973, 462). Evidence gathered in different ways and with different groups should converge on the construct. If the measuring instrument is administered to different groups in different places we should expect similar results. On the other hand, if the results turn out to be different, the theory should explain why - or still better, it should predict such differences. As argued by Kerlinger, one should also be able empirically to discriminate the construct from other constructs that may be similar, and one should be able to point out what is *unrelated* to the construct:

> "We point out, in other words, what other variables are correlated with the construct and how they are so correlated. But we also indicate what variables should be uncorrelated with the construct" (Kerlinger 1973, 462)

Let us illustrate the ideas of construct validation with some examples taken from this study. The "groups" taking part in this study differed among other things with respect to their mother tongues (Finnish or Swedish), levels of English proficiency, time of stay in English-speaking country. The division into groups was true also of the items in the measuring instrument. Thus items with similar semantic or other properties were grouped as different subtests (see 5.2). One of the main constructs in this study, namely "preference for (or avoidance of) phrasal verbs" may serve as an example. The theory predicted that increased level of English proficiency (measured as the number of years of English at school) would generally lead to more native-like performance with phrasal verbs. The measuring instrument did indeed indicate that this trend was true of both Finnish and Swedish learners (see section 6.2, tables 2, 3, and 4). The test data also showed that Finns were more inclined than Swedes to "avoid" phrasal verbs in the early stages of learning. The theory also predicted this. Let us take another, and even better example of learners with different mother tongues in which the results indicate a similar meaning of the above construct. In tables 5 and 6 it was shown (as predicted by the theory) that Finns and Swedes who had been extensively exposed to natural input were much more inclined to choose phrasal verbs than comparable learners who had no experience whatsoever of natural input. The inclination to choose phrasal verbs among the natural input groups was approximately equally strong for Finns and Swedes. In the theoretical framework of this study it was also claimed that semantically opaque phrasal verbs would, generally speaking, be less chosen than transparent ones. This differentiation was nicely captured by the measuring instrument (see Table 17). On the other hand, opaque and transparent phrasal verbs were predicted to be selected differently by Swedish and Finnish learners if they were Swedish-based. As was hypothesized in the theory, Swedes were on the whole more inclined to choose opaque phrasal verbs if they were Swedish-based, whereas Finns tended to choose transparent, Swedish-based phrasal verbs more than Swedes. Another predicted difference, which also came out in the test, was that the patterns of preference tended to be U-shaped among the Swedes in the subtests with Swedish-based phrasal verbs (especially if the phrasal verbs were opaque)(see Fig. 17 and 19).

From the description above the general purpose of our instrument could be characterized as an attempt to elucidate how factors such as L1, language distance, type and amount of input, semantic properties of the test material etc. might affect the acquisition of English, or more specifically, the acquisition of English phrasal verbs. The characterization of the test as a fairly heterogeneous instrument consisting of different subtests makes us believe that very high correlations with some external criteria are hard to find. One could possibly correlate the scores in our test (and the subtests) with grades in English. Scores in the test have here been defined as per cent of correct answers where both of the two acceptable alternatives (the phrasal verb and the one-part verb) are considered correct. Grade in English could be said to reflect what the subjects in this study have learned of a known syllabus within a school or the total educational system. Thus grade in English is primarily to be seen as a measure of the achievements of our subjects relative to a specified syllabus, but will probably to some extent also be a reflection of general proficiency of English. Because the purpose of our test was not to serve as an achievement test or a test of general proficiency of English, we could expect but moderate correlations with grade in English. The table below shows how grade in English correlates with the scores in the total test and some of the subtests. The correlations are computed for the two basic groups of learners taking part in this study, namely the Finnish upper secondary school pupils (level 1 and 2) and the university students (level 3 and 4).

Table 11. *Correlations between grade in English and scores in total test (ToT), and three subtests (OS-, OS+, TS+).*

Grade in English		ToT	OS-	OS+	TS+	
Swedes	Lev. 1-2	.39	.44	.14	.11	N = 496
	Lev. 3-4	.37	.39	.11	.13	N = 112
Finns	Lev. 1-2	.47	.46	.15	.30	N = 506
	Lev. 3-4	.67	.63	.46	.44	N = 132

The correlations between grade in English and our test scores were, as expected, not very high. Yet these correlations appear to give some support to the construct validity of our measuring instrument. Table 11 indicates that the correlations are considerably higher for Finnish learners in all the tests. A plausible explanation of this could be that the test appeared more "natural" to Finns in the sense that none of the test items were designed to elicit direct transfer from Finnish. In fact, Finnish-based phrasal verbs could not occur in this test because phrasal verbs do not exist in Finnish. To Swedes, one could presume, the items looked less "natural", because a considerable part of the items (i.e. 12 which is more than 40 %) contained Swedish-based phrasal verbs. Support for this assumption is found in the fact that grade in English shows very low correlations with the subtests containing Swedish-based phrasal verbs (subtests OS+ and TS+) among the Swedish learners. Presumably, these subtests measured something else (possibly some kind of strategicness) than proficiency of English, which they in fact were designed to do. As could be predicted, subtest OS- correlated best with grade in English for both language groups. The higher correlations in this test were, however, also partly due to the fact that it contained a greater number of items than the other subtests.

6. Results

In the following, the main results of the empirical study will be presented and analysed. The data were collected by means of the specially designed test instrument and the learner questionnaire described in Chapter five. The aim of the elicitation procedure was to try to tap the learners' underlying target language knowledge (i.e. English) by studying how the patterns of choice between phrasal verbs and equivalent one-part verbs develop among learners. The study concerned Finnish- and Swedish-speaking learners of English and their test results were compared with native speaker reactions in the same test. Such factors as semantic properties of phrasal and one-part verbs, potential transferability (i.e. existence of "literal" equivalents in Swedish), type and amount of prior second language experience, and type of test distractors were believed to be crucial in the interpretation of the test results. Both frequency and type of errors were considered to give additional information about the learner's developing L2 knowledge. The presentation and analysis of the test results will in the following be compiled diagrammatically and numerically so as to illuminate the research questions and hypotheses outlined in Chapter four.

6.1. The effect of language distance

The first question concerned the impact of language distance (objective and perceived distance) on the learning of English phrasal verbs. The first hypothesis derived from this question was that Finns would make more errors than Swedes in a test with

English phrasal verbs (especially initially). The error data used in this study were drawn from all the 28 items. In Table 12 below, the number (and percentages) of errors and correct responses is given for both language groups. The broad scoring procedure was used, i.e. both of the two correct alternatives (the phrasal and one-part verbs) were judged as correct, although native speakers strongly tended to prefer the phrasal verb alternatives. No division into proficiency levels was made in Table 12.

Not surprisingly, Table 12 shows that both language groups scored fairly well in the test. It should be borne in mind, however, that the multiple choice test used in this study contained two acceptable alternatives, a circumstance which is calculated to raise the solution percentage considerably. The data in Table 12 suggested, however, that Finns made significantly more errors than Swedes. Thus Hypothesis 1 was supported by the data. The interpretation made here is that these differences are largely to be explained in terms of language distance.

Table 12. *Number and percentage of errors and correct responses among Swedes and Finns in a test with English phrasal verbs.*

		Errors	Correct
Swedes	f	1566	15458
(N = 608)	%	9.20 %	90.80 %
Finns	f	3472	14456
(N = 638)	%	19.40 %	80.60 %

$\chi^2 = 730.93$; df = 1 ; df = 1; $p < .0001$

The chi square value indicates very significant differences between the two language groups. Finnish is a synthetic language, typologically very distant from analytic languages like Swedish and English. The analytic construction phrasal verb, which is non-existent in Finnish, should then cause special learning problems for Finns.

It was also postulated that most of the errors made by Finns would be located in the early stages of learning. Why then would Finns have greater learning difficulties in the initial stages? For the Swedes, the form-function mappings of L1 can, as far as phrasal verbs are concerned, be brought to bear on L2 without any problem, because the category phrasal verbs has an almost identical structural description in both languages. Finnish learners, however, have to approach the acquisition of English phrasal verbs from a slightly different "knowledge state". They have to break down parts of target language input and L1 information and reorganize them into new units until the target system of phrasal verbs is reached. Therefore, it could be expected that more information processing capacity has to be allocated to the initial stages, a fact that will result in a greater number of errors. Figure 9 below shows the percentage of errors in the total test made by Swedes and Finns at four stages of learning. The diagram below indicates that the most conspicuous differences between Finns and Swedes are to be found in the early stages of learning, but at more advanced stages the differences tend to be levelled out. This is congruent with prior evidence that L1 influence (and transfer processes) tend to decrease with increased target language knowledge (cf. Taylor 1975; Major 1986; Ringbom 1987).

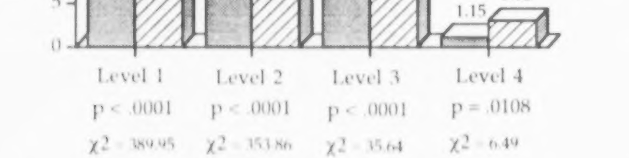

Figure 9. *Errors made by Swedes and Finns at four levels of proficiency (28 items).*

In Figure 9, the frequencies of errors and correct responses were compared between Finns and Swedes separately for each level of proficiency. A chi square analysis showed statistically significant differences at all levels.

In Hypothesis 2 it was postulated that Swedes would have an advantage especially in test items where the correct alternatives were Swedish-based. Among such items, the errors were expected to be few for Swedes, and the advantages over Finns were expected to be greater than among items with non-Swedish-based alternatives. An inspection of the test items showed that twelve items contained Swedish-based phrasal verbs, five of which were opaque (subtest OS+) and seven transparent (subtest TS+). In addition, two items had one-part verbs which had a close formal and semantic similarity with Swedish, i.e. item 7 containing "explode" (cf. Sw. "explodera") and item 26 containing "attack" (cf. Sw."attackera"). Thus the subtest containing Swedish-based correct alternatives comprised fourteen items. The remaining twelve items contained only non-Swedish-based phrasal verbs. Eleven of these were opaque and one item (item 13) contained a transparent phrasal verb. The two items where native speakers preferred the one-part verbs were not included. In the figures below, the percentage of errors are plotted down for items with Swedish-based (Figure 10a) and non-Swedish-based (Figure 10b) alternatives. Let us first examine Figure 10a below. What immediately catches the eye is that Swedes have made very few errors at all levels. Finns have made considerably more errors at all levels, especially at levels 1-2 where the difference between Finns and Swedes is around 14 percentage points. In Figure 10b below, the pattern is partly different.

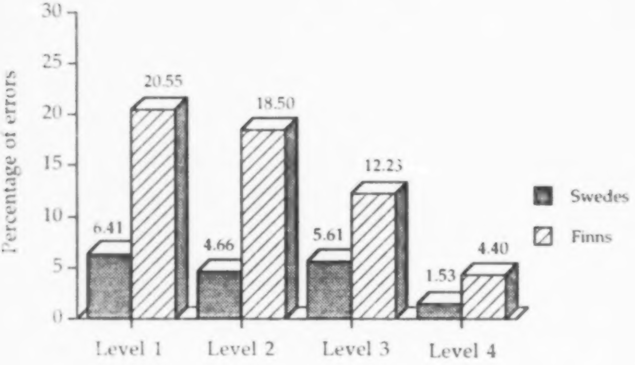

Figure 10a. *Errors made by Swedes and Finns among items with Swedish-based alternatives (14 items).*

Here both language groups have made remarkably more errors than in Figure 10a. The probable reason for the items in Figure 10b being more "difficult" is that these items contained almost exclusively semantically opaque phrasal verbs (cf. subtest OS-). In addition, the one-part verbs in Figure 10b were on the whole more foreign-sounding, and less frequent (e.g. *postpone, depart, disappoint* etc.) than the one-part verbs in Figure 10a. What also contributed to the "facility" of the 10a items was that nearly half of them contained semantically transparent phrasal verbs. Let us once more turn to the items in Figure 10b. Finns have made more errors than Swedes also among these items, but the difference between the two language groups has noticeably decreased. How are these differences to be explained? One explanation is to say that the Swedish-based alternatives available in the subtest in Figure 10a have proved advantageous to Swedes. To be able to say this we have to demonstrate that the difference in the error rate is considerably larger among items with Swedish-based alternatives (in Fig. 10a) than among items lacking Swedish-based alternatives (in Fig. 10b). Figure 10c on the

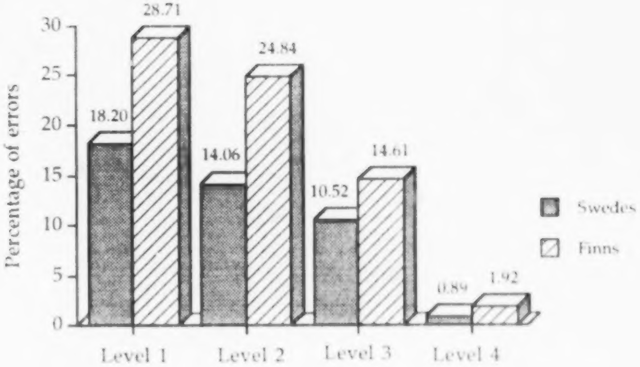

Figure 10b. *Errors made by Swedes and Finns among items with non-Swedish-based alternatives (12 items).*

next page illustrates the differences in percentage between Finns and Swedes in the two subtests referred to in Figures 10a and 10b.

The curves in Figure 10c show a very consistent pattern. The differences between Finns and Swedes were considerably larger in the subtest with Swedish-based alternatives at all levels. The results in Figure 10c seem to support our assumption that L1-similarity in form and meaning with available target language alternatives may have resulted in "positive transfer" among Swedes. A fact that also could have contributed to the differences in Figure 10c was that several of the items containing Swedish-based phrasal verbs had additionally one-part verbs that were formally and semantically similar to some Swedish verb (e.g. *start/starta; raise/resa*) The reasons for the differences between Finns and Swedes could, however, also be attributed to

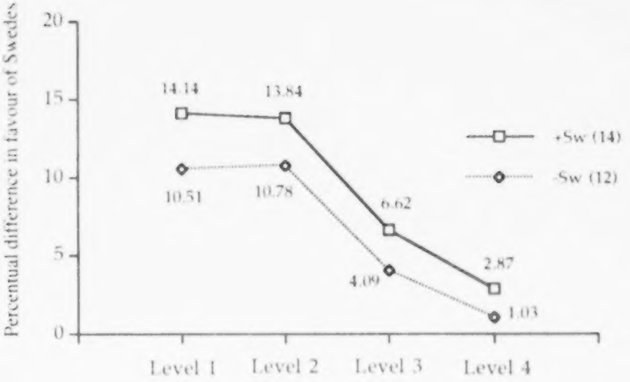

Figure 10c. *Difference between Finns and Swedes in percentage of errors in subtest with Swedish-based alternatives (Fig. 10a) and non-Swedish-based alternatives (Fig. 10b).*

other factors, e.g. the attractiveness of distractors (cf. 6.4. p. 193).

So far only error data have been dealt with. It was thought to be more revealing, though, to look at the learners' preferences for or rejections of phrasal verbs in a choice situation. The learner's preferences for a phrasal verb were believed to be governed by the structural difference and perceived distance between L1 and L2. It would then be plausible to expect that Finns, because of the lack of genuine phrasal verbs (i.e. idiomatic ones) in their L1, would tend to choose phrasal verbs proportionately less often than Swedes. This claim, which was formulated in Hypothesis 3, was believed to be true of the early stages of learning. In Figure 11 below, the proportions of idiomatic (opaque) phrasal verbs preferred by learners from both language groups are plotted down diagrammatically.

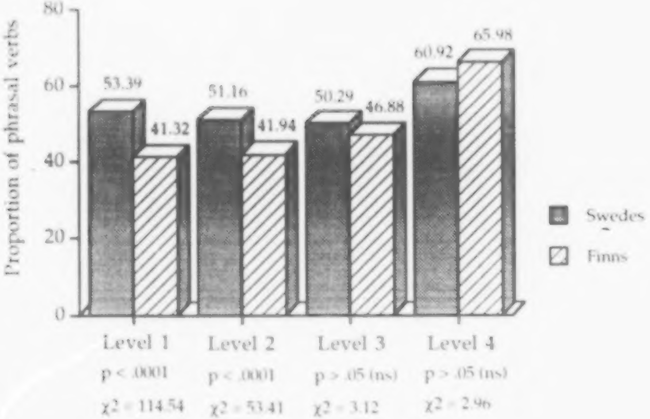

Figure 11. *Proportion of idiomatic phrasal verbs (18 items) preferred by Swedes and Finns at four levels of proficiency.*

There were in total 18 items containing idiomatic or opaque phrasal verbs in the test. These items will henceforth be called *subtest O* (from opaque). The data in Figure 11 illustrate the proportion that were phrasal verbs out of the total number of correct responses. The erroneous responses were not considered. As is indicated in Figure 11 above, the results in subtest O strongly supported Hypothesis 3. A chi square analysis was performed in order to test the differences shown up between Swedes and Finns in the proportion of phrasal and one-part verbs. Highly statistically significant differences were found at level 1 and 2. The differences at level 3 and 4 were not statistically significant. A possible explanation is that Finns in the early stages of learning are indirectly influenced by their L1. They prefer one-part verbs which exist in Finnish, and reject phrasal verbs, because the category is non-existent in their L1. In proficiency level 4, however, Finns tended to choose phrasal verbs somewhat more often than Swedes. One possible explanation of this could be that the Finns at this level probably were somewhat more advanced than the Swedes. The comparison between the two language groups indicated that Finns at level four had somewhat higher grades in English and had been in English-speaking countries for a longer period of time (cf. section 5. 3).

Figure 11 above was based on data from the total number of items in *subtest O*. However, five of the items in this subtest contained phrasal verbs with a literal Swedish equivalent (e.g. *break out/bryta ut*). This subtest, which will be treated in section 6.2 (Fig. 17), will be called *subtest OS+* (S+ stands for Swedish-based). By considering items with non-Swedish-based phrasal verbs only, the effects of phrasal verbs as a category will be arrived at. Therefore, the diagram in Figure 12 comprises items where only non-Swedish-based, opaque phrasal verbs are included. These 13 items comprised *subtest OS-* (S- stands for non-Swedish-based). Although the occurrence of Swedish-based phrasal verbs has probably caused some more Swedes to choose phrasal verbs in Figure 11 than in Figure 12, the main trends were the same in both diagrams. As claimed in Hypothesis 3, Finns tended to resort to idiomatic phrasal verbs less often than Swedes in the early stages. Because one can assume that the linguistic inputs Finns and Swedes have received are comparable and similar, the differences are probably to a great extent due to structural reasons. In Figure 12 below, the differences were statistically significant at all four levels. The chi-square values indicated that Swedes tended to choose phrasal verbs significantly more than Finns at levels 1-3. The differences, however, gradually decrease, and at level 4 the tendency was the reverse, i.e. it was the Finns who were more inclined than the Swedes to choose the phrasal verbs (statistically significant at 5 % level).

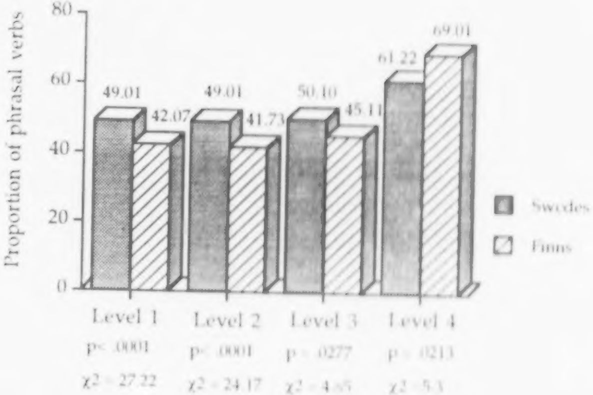

Figure 12. *Proportion of idiomatic phrasal verbs (13 items) preferred by Swedes and Finns at four levels of proficiency (only non-Swedish-based phrasal verbs).*

An interesting question to ask is whether the under-use or non-use of phrasal verbs among Finns is an indication of indirect L1 influence or avoidance of a structure not occurring in L1. Contrary to Schachter's (1974) original claim that language difference leads to avoidance, Kleinmann (1977) and more recently Seliger (1989) argue that true avoidance presupposes a choice between options. If true avoidance is to be claimed, the following three conditions must be satisfied according to Seliger (1989): (1) the learner must know the avoided form, (2) the native speaker must be able to identify the obligatory environments for use of the form, and (3) there must exist in L1 a form that basically requires the same 'rules' for realization as the avoided form. Seliger's conclusion is that it is illogical to term as avoidance the non-use of a form which the learners have incomplete or no knowledge of either from their L2 learning experience or their L1. Because the Finnish learners had some L2 learning experience (and knowledge) of phrasal verbs (but no L1 experience), the under-use of phrasal verbs among Finns might partly be interpreted as avoidance, and partly as a result of ignorance and incomplete knowledge.

To sum up, the data in this study seem to indicate very clearly that language distance plays a role in the acquisition of phrasal verbs. The error data showed that Finns had much greater problems with phrasal verbs (i.e. they made more errors) than Swedes. These differences could imply that phrasal verbs, because of structural differences between L1 and L2, constitute a specific learning problem for Finns. On the other hand, the differences could also partly be a result of "positive transfer" among Swedes. As a matter of fact, it has been found that lexical items in which there is similarity in form and meaning between L1 and L2 are easily transferred (cf. fig. 10a). Ard and Homburg (1983) even found that the facilitative effect generalizes beyond lexical items that show overt similarity (cf. fig. 10b). They found that Spanish learners of English did better than Arabic learners, also on lexical items where no direct similarity in form and meaning existed. Because of the structural difference between Finnish and English (Finnish lacks phrasal verbs), Finns were expected to under-use (and avoid) idiomatic phrasal verbs. Under-use or avoidance of troublesome L2 structures has been attested when their L1 counterparts are expressed differently (or are lacking) in L1 (cf. Schachter 1974; Ringbom 1987).

6.2. The effect of input

The second question dealt with in this study was concerned with the possible effects of input on the acquisition of English phrasal verbs. In what way did the quantity of input affect the acquisition of English phrasal verbs and did it matter if the input was predominantly natural or formal? In order to study the effects of input, the concept must first be converted into operationalizable units. Input may be looked at *quantitatively* or *qualitatively*. Let us first consider the quantitative aspects of input. It is assumed that for language learning to take place, enough teaching and learning time must be provided for. In this study, the *total quantity of input* (instructed and natural) has primarily been operationalized as the number of years learners have been exposed to formal, classroom instruction in English. Quantity and intensity of input was secondarily operationalized as the grade in English. This rests on the assumption that high marks in English are a result of the time and effort learners have given to their studies of English.[21] The total quantity of input can either be concentrated into a short duration, or spread thinly over a very long period of time (cf. Strevens 1977, 29). Although the number of years of instruction is a crude measure of quantity of input, it was considered sufficient for the purpose of this study because of the relative similarity of the educational background among Finnish and Swedish learners. Let us then go to the qualitative aspects of input. Two qualitatively different types of inputs have been dealt with in this study. The first one comprises the kind of input that is typical of a formal classroom setting. The second type could be characterized as the kind of input learners are exposed to in a natural interactional situation with native speakers of the target language. The "quantity" of natural input was estimated by establishing the learners' average time in English-speaking countries. This was dealt with in section 5.3 where it was demonstrated that no differences were to be found between Finns and Swedes.

A general assumption made in this study was that the more similar the learners' input is to that of the native speakers, the more similar their output will be. Another related assumption was that an increased quantity of input must ultimately lead to an increased preference for phrasal verbs, although this increase need not be a linear one. A third plausible assumption was that an increased degree of natural input in the learners' total quantity of input will lead to a more native-like performance, i.e. a greater propensity for the learners to choose phrasal verbs. In the following, a comparison of the inputs received by native speakers and foreign language learners will be made. At least two reasons motivated this comparison. Firstly, the native speaker responses in the test were assumed to represent the target language norm, and secondly it was surmised that native speaker and learner inputs would differ quantitatively as well as qualitatively. The main differences between native speaker and learner inputs are characterized below.

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[21] Quantity of input is of course also dependent on learner internal factors such as general linguistic ability, verbal and lexical inferencing skills, metacognitive skills, ability to use communication and learning strategies etc. Data that easily capture these variables were, however, not collected in this study. Relevant literature pertaining to this is for example the reasearch on 'good language learners' (see Rubin 1975; Stern 1975; Carroll 1977).

The language input native speakers have been exposed to could be characterized as optimal in all respects. Native speakers have ever since their childhood been exposed to a highly context-embedded language input (cf. BICS in Cummins 1979, 1980). In addition, the intensity of the native speakers' natural input is also optimal. Native speakers have also, in the course of their education, acquired the metalinguistic language skills typical of the classroom. The latter skill has been alleged to be related to general problem-solving skills and implies an ability to manipulate or reflect upon surface features of language outside the immediate interpersonal context (cf. CALP in Cummins 1979, 1980).

The type of input second language learners are exposed to could be characterized as context-reduced and decontextualized. In addition, the intensity of this input is very low. Most of the language material learners encounter in classroom settings is pedagogically sequenced and graded and the vocabulary items are carefully selected. The classroom input tends to represent the written language, where phrasal verbs are less common. Phrasal verbs have also been found to comprise marked features of language in that they tend to be collocationally, semantically, and syntactically more restricted than the equivalent one-part verbs.

On the basis of the reasoning above, two predictions could be made. The first one states that learners (Swedes as well as Finns) will tend to choose phrasal verbs less often than native speakers (Hypothesis 4). In the second prediction (Hypothesis 5) it is claimed that learners who had received a greater quantity of input (i.e. more advanced learners) would prefer phrasal verbs more often than learners who had received less input (i.e. less advanced learners). In Table 13 below, intermediate and advanced learners' preferences for phrasal verbs are compared with the native speakers' preferences. The percentages below show the proportion of phrasal verbs chosen out of the total number of correct responses. A chi square test showed statistically significant differences between all the levels for both language groups (at the level of .01). The statistically significant differences are compiled in Table 14 below.

Table 13. *Finnish- and Swedish-speaking learners' preferences for phrasal verbs at intermediate (level 1) and advanced level (level 4) compared with native speakers' preferences (28 items).*

		Swedes				Finns	
		Phrasal v.	One-part v.			Phrasal v.	One-part v.
Level 1	f	3579	3186		f	3146	3182
N = 272	%	52.93	47.07	N = 294	%	49.72	50.28
Level 4	f	449	326		f	659	400
N = 28	%	57.94	42.06	N = 39	%	62.23	37.77
Natives	f	327.5	92.5				
N = 15	%	78.00	22.00				

Table 14. *Statistical differences of preference for phrasal verbs between different levels of proficiency and the native speaker norm.*

Difference	**Swedes**	**Finns**
Lev. 1 and 4	$\chi^2 = 6.81$; $p = .0091$	$\chi^2 = 56.37$; $p < .0001$
Lev. 4 and natives	$\chi^2 = 47.20$; $p < .0001$	$\chi^2 = 32.87$; $p < .0001$

Table 13 indicates that learners (both Swedes and Finns) were fairly reluctant to choose phrasal verbs. The table seems to suggest that advanced learners, who have received quantitatively more input (and also a greater proportion of natural input), were indeed more prone to choose phrasal verbs than less advanced learners. The data also indicate that Swedes seem to choose somewhat more phrasal verbs than Finns in the initial stages, whereas phrasal verbs have been more attractive to Finns in the advanced stages. Although the number of native speakers taking part in the test was relatively low, the results can be regarded as rather reliable. In 26 out of 28 items the native speakers preferred the phrasal verb alternative. In the great majority of items (i.e. 22 items), the preference for phrasal verbs was between 70 and 100 % (see appendix 2).

Let us once more go back to the data in Table 13. Why were natives so much more inclined than learners to choose phrasal verbs? A plausible explanation could be that the differences are a reflection of the native speakers' superior knowledge of the use of phrasal verbs. The meaning distinctions between idiomatic phrasal verbs and semantically more general (and less idiomatic) one-part verbs are not yet fully mastered by learners. In fact, native speaker judgements showed that 71.4 % of the phrasal verbs occurring in this study were idiomatic (semantically opaque), whereas 82.1 % of the one-part verbs were judged to have a general, central, or multi-purpose meaning (see appendix 3). Thus the inclination by learners to select one-part verbs might well be due to semantic factors, i.e. the one-part verbs were on the whole seen as a safer choice because they had a broader and more general meaning. This type of avoidance behaviour is a result of a comparison between forms within the L2 system (cf. Hulstijn & Marchena 1989, 250). It is argued here that the use of a play-it-safe strategy of the kind described above is ultimately a function of the quantity and quality of input.

As was suggested earlier, the school grade in English was proposed as another plausible measure of quantity of input. It was of special interest to find out whether increased formal, classroom input had any effect on the learners' preferences for phrasal verbs. Therefore, the test results of the learners who had high and low grades in English were compared. The subjects were divided into two groups (separately for Swedes and Finns) so that those who had received grades 9 and 10 made up the "high group" and those who had received grades 4, 5 and 6 composed the "low group". The selection of subjects was restricted in two ways. First, only subjects who had received a minimal portion of natural input were selected (i.e. subjects who had not visited English-speaking countries). This delimitation is to be seen as a means of eliminating the effects of natural input and by this restricting the effects to school knowledge of English. The second restriction was to eliminate subjects of level 4. This group of subjects, who were university students majoring in English, were excluded because they were thought to represent a proficiency level that by far exceeded that of school knowledge. Although not all the students of English had received a natural input by visiting English-speaking countries, almost all the instruction they had received was in English (very often given by native speakers). These data are of course rather crude, because some of the background variables in the two groups were not fully controlled. The results of the comparisons between the "high group" and the "low group" are illustrated in Tables 15 and 16 below. The figures in Table 15, which comprised all the 28 items in the test, indicate a very slight tendency for the high group subjects in both language groups to prefer phrasal verbs, but the differences were not statistically significant. Let us then go to Table 16, which comprised exactly the same subjects as those in Table 15.

Table 15. *Preferences for phrasal verbs among learners with high grades (9-10) and low grades (4-6) in English (28 items).*

		Swedes			Finns			
Grade in English			Phrasal v.	One-part v.		Phrasal v.	One-part v.	
N = 123	9 - 10	f	1656	1560	f	1142	1161	N = 95
		%	51.49	48.51	%	49.59	50.41	
N = 78	4 - 6	f	955	907	f	1460	1586	N = 150
		%	51.29	48.71	%	47.93	52.07	

$\chi^2 = .01$; df = 1; p = .91 (ns) $\chi^2 = 1.37$; df = 1; p = .24 (ns)

This time the two groups were compared with respect to how they preferred phrasal verbs in subtest OS-, i.e. the subtest containing 13 non-Swedish-based, but opaque (idiomatic) phrasal verbs. The figures in table 16 indicate highly significant differences between the subjects with high and low marks in English. Although Swedes on the whole had preferred these phrasal verbs more than Finns, the advanced learners (with grade 9 or 10) had preferred opaque phrasal verbs considerably more than the less advanced learners (with grade 4-6) in both language groups. A conclusion to be drawn from the data compiled in Tables 15 and 16 is that increased quantity of informal, classroom input seems to have some effects on the the learners' choices between phrasal and one-part verbs. The main result was that the high proficiency group (with grades 9 and 10) "preferred" idiomatic phrasal verbs significantly more than the low proficiency group. It should be pointed out, however, that the propensity to choose opaque phrasal verbs was very low for both language groups (between 39 and 52 %). In comparison, 84.62 % of the native speakers preferred the same phrasal verbs.

Table 16. *Preferences for phrasal verbs among learners with high grades (9-10) and low grades (4-6) in English in subtest with opaque (idiomatic), non-Swedish- based phrasal verbs (OS-).*

		Swedes		**Finns**		
Grade in English		Phrasal v.	One-part v.	Phrasal v.	One-part v.	
N = 123	9 - 10	f 760	699	f 470	580	N = 95
		% 52.09	47.91	% 44.76	55.24	
N = 78	4 - 6	f 345	436	f 507	776	N = 150
		% 44.17	55.83	% 39.52	60.48	

$\chi^2 = 12.44$; df = 1; p = .0004 $\chi^2 = 6.31$; df = 1; p = .012

As far as the total quantity of input is concerned, it was postulated that the more similar the learners' input is to that of native speakers, the more convergent their 'output' will be. In other words, learners who have been abundantly exposed to natural input will be expected to have a more native-like command of phrasal verbs. Therefore, hypothesis 6 stated that only learners who have spent a very long period in an English-speaking country would have a performance that approximates that of native speakers in a test on phrasal verbs. One way of testing this would be to compare the individuals who had been abroad for a reasonable period of time with those who had no such experience with respect to their performance in the test on phrasal verbs. The problem with this design is that the possible differences found between these groups could be attributable to other variables than extensive exposure to natural input. One variable that needs to be controlled is the learners' grade in English. This is so because it has previously been demonstrated that those learners who had been abroad had considerably higher marks in English than those who had not (see 5.3, p. 145). To make sure that the effects of the differences were due to natural input, a somewhat more controlled design was used. The first step was to select a group of learners (separately for Swedes and Finns) who were defined to have been abundantly exposed to natural input. In this study, all the learners who had been to an English-speaking country for 10 months or more were regarded to have been abundantly exposed to natural input. The learners were selected from all four levels of proficiency and the result was two reasonably large groups (Swedes N = 38; Finns N = 35). The next step was to match each individual in these groups on pertinent variables with individuals who had not visited English-speaking countries. Thus individuals in the matched groups were paired with members of the first groups on the basis of variables that needed to be controlled (cf. McNemar 1969, 93). The pairing was assumed to make the groups equivalent on the pairing variables. The pairing variables that were controlled in this study were the learners' mother tongue, the school they came from, their sex, their level of proficiency, and above all their grades in English in the school report. In practice, the pairing procedure implied that for each individual in the first groups an 'identical twin' with respect to the pairing variables was selected. The pairing procedure resulted in two equivalent, equally large groups (for both language groups) which differed only on the variable exposure to natural input. As expected, the average grade in English among those who had been in an English-speaking country was very high (a little more than 9 in both language groups). In the matched groups the average grades in English were of course the same as in the original groups. The results of the comparisons between the two groups are given in Tables 17 and 18 below.

Table 17. *Preferences for phrasal verbs among learners who have been in an English-speaking country > 10 months and a matched group of learners who have not been in an English speaking country (total test).*

		Swedes				Finns	
In Engl		Phrasal v.	One-part v	In Engl		Phrasal v.	One-part v
> 10 mon.	f	585	458	> 10 mon.	f	531	383
N = 38	%	56.09	43.91	N = 35	%	58.10	41.90
Not at all	f	547	482	Not at all	f	464	408
N = 38	%	53.16	46.84	N = 35	%	53.21	46.79

$\chi^2 = 1.68$; df = 1; $p > .05$ (ns) $\chi^2 = 4.12$; df = 1; $p = .0424$

Table 18. *Preferences for phrasal verbs among learners who have been in an English-speaking country > 10 months and a matched group of learners who have not been in an English-speaking country (subtest OS-).*

		Swedes				Finns	
In Engl		Phrasal v.	One-part v	In Engl		Phrasal v.	One-part v
> 10 mon.	f	293	189	> 10 mon.	f	258	165
N = 38	%	60.79	39.21	N = 35	%	60.99	39.01
Not at all	f	254	220	Not at all	f	207	196
N = 38	%	53.59	46,41	N = 35	%	51.36	48.64

$\chi^2 = 4.77$; df = 1; $p = .0289$ $\chi^2 = 7.39$; df = 1; $p = .0066$

The figures in Table 17, where data from the whole test are included, show a fairly clear tendency for subjects in the "natural input" group to prefer phrasal verbs more than subjects in the matched groups. The difference was not statistically significant for the Swedes, though. The same comparison in subtest OS- (items with opaque, non-Swedish-based phrasal verbs) resulted in statistically significant differences for both language groups.

To sum up, the data compiled in Tables 17 and 18 clearly indicate that abundant exposure to natural input leads to a more native-like performance. Almost 61 % of the learners (Finns and Swedes) in the natural input groups preferred phrasal verbs in the subtest with opaque phrasal verbs (OS-). In the matched groups which comprised learners with advanced classroom knowledge of English, the preference for phrasal verbs was considerably lower.

It has previously been argued that increased classroom input leads to increased preference for phrasal verbs (see Tables 15 and 16). It is argued here that the choice patterns of phrasal verbs develop in three successive stages. In the first phase, when learners have been exposed only to a moderate amount of classroom input (indicated here as low grades in English) and no natural input, phrasal verbs tend to be "avoided", especially if they are opaque (idiomatic). In the second stage, when learners have been exposed to a fair amount of classroom input (i.e. learners with high marks in English), but no natural input, phrasal verbs tend to be preferred more than in the previous stage. And finally, in the third stage, when learners have been extensively exposed to classroom input (indicated as high grades in English), but also received a fair amount of natural input (> 10 months), their propensity to choose phrasal verbs will further increase. In fact, it has already been demonstrated that learners who have received a great amount of natural input show a more native-like performance with phrasal verbs than a matched group of learners who have received only classroom instruction (see Tables 17 and 18). These groups could be said to represent the second and the third of the stages described above. What remains to be done is to match these groups with a third group of learners who have received (or taken in) classroom input moderately and who have not been exposed to natural input. This matching procedure resulted in a third, equally large group of learners with the same values on all pertinent variables as in the two other groups. This group differed from "the classroom input group" only with the variable grade in English. The group comprised members who had received low grades in English (grades 4-6), but were equivalent with the two previous groups in other respects. In Figures 13 and 14 below, the learners' preferences for phrasal verbs are plotted down in graphs according to what amount and type of input they have received (cf. appendix 9).

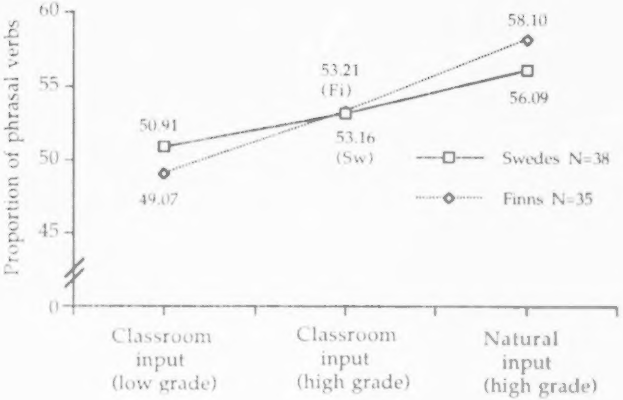

Figure 13 *Proportion of phrasal verbs selected by three matched groups of learners who have received different kinds of input (total test).*

The diagrams in Figures 13 and 14 seem to lend some support to our assumption that learners' preferences for phrasal verbs develop in three stages. The diagrams in these figures seem to indicate that the learners' inclination to choose phrasal verbs increases with increased classroom knowledge of English. The greatest propensity to choose phrasal verbs was, however, found among learners who in addition to possessing advanced classroom knowledge also had been exposed to a fair amount of natural input. What also seems to be obvious from the diagrams is that the differences between the three input groups are most marked among test items containing opaque phrasal verbs (see Fig. 14). Statistically significant differences were, however, not found between the two language groups in any of the three stages. Let us then compare the learners' performance in the three input groups. In the total test (Fig. 13), no statistically significant differences were found between the classroom groups (low and high grade) for the Swedes. The same was true of the difference between the high grade classroom group and the natural input group. A statistically significant difference was, however, found between the low grade classroom group and the natural input

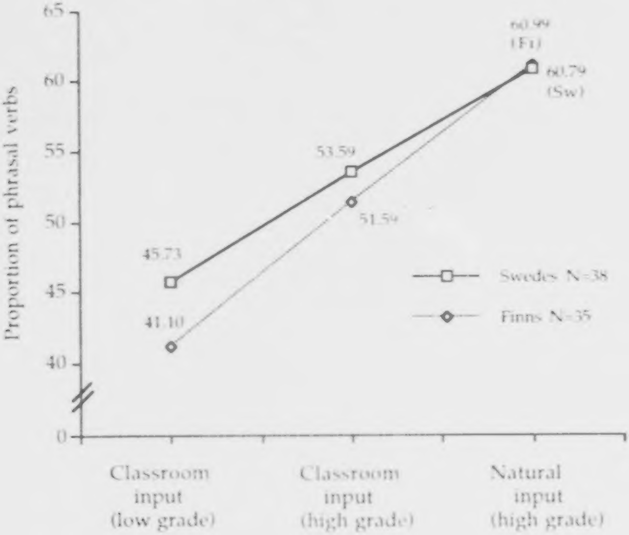

Figure 14. *Proportion of phrasal verbs selected by three matched groups of learners who have received different kinds of input (subtest OS-).*

group (p = .0235). The chi square analysis that was used was based on the difference between the proportions of phrasal and one-part verbs selected in the different input groups. For the Finns, the difference was not statistically significant between the two classroom groups in the total test. The difference in the same test was, however, statistically significant between the high grade classroom group and the natural input group (p = .0424), which of course was also true of the difference between the low grade group and the natural input group (p = .0003).

In Table 19 below, where the statistical values are compiled for subtest OS-, the abbreviated forms "low grade" and "high grade" have been used for the two classroom input groups. As indicated in the table, the differences between all the input groups were statistically significant for both language groups. For the Finnish learners the differences between all groups reached the level of .01.

Table 19. *Statistical differences of preference for phrasal verbs between different input groups in subtest OS- (Swedes and Finns).*

Difference	Swedes	Finns
Low grade/high grade	$\chi^2 = 5.03$; $p = .0249$	$\chi^2 = 7.62$; $p = .0072$
High grade/natur. input	$\chi^2 = 4.77$; $p = .0289$	$\chi^2 = 7.39$; $p = .0066$
Low grade/natur. input	$\chi^2 = 19.3$; $p < .0001$	$\chi^2 = 28.4$; $p < .0001$

So far it has been found that the quantity of both classroom and natural input affects the learners' inclination to choose phrasal verbs. It has also been found that Finns tended to be fairly reluctant to choose opaque phrasal verbs in the early stages of learning. Compared with the standards of native speakers, however, both language groups are great under-users of phrasal verbs. It has previously been suggested that although increased quantity of input (classroom and natural) must ultimately lead to a more native-like performance with phrasal verbs, this development need not be a linear one. It is argued here that the development of the learners' knowledge of phrasal verbs is constrained by at least the following three factors. (1) The existence of a congruent form of the target language phrasal verb in L1 (which is relevant to related languages only). (2) The learners' perception of the L1-L2 similarity (this metalinguistic awareness tends to increase with increased language knowledge). (3) The semantic properties of the phrasal verbs (as perceived by the learners). In the following, an attempt will be made to reveal how these three constraints might affect the development of the learners' knowledge of English phrasal verbs. Because the first constraint was applicable to Swedish learners only, it was considered worth while having a closer look at how Swedish learners performed with English phrasal verbs and to compare their performance with that of Finnish learners.

Figure 15 below shows the preference for phrasal verbs among Swedes and Finns at different stages in the total test (cf. appendix 6). What immediately catches the eye in Figure 15 was that the preference for phrasal verbs did not automatically increase from one proficiency level to the next. Swedes seemed to prefer phrasal verbs somewhat more than Finns in the early stages, but at later stages phrasal verbs were preferred more by Finns. On the whole, the differences between the two language groups were small; only at level 1 was the difference statistically significant. It is also worth noting that the curve for Swedes is somewhat U-shaped. In fact, the decrease in the acceptance of phrasal verbs from level 1 to level 2 was statistically significant (p = .003). At level 4, however, both language groups were considerably (and significantly) more inclined to choose phrasal verbs than at the previous level (p < .0001 for both language groups).

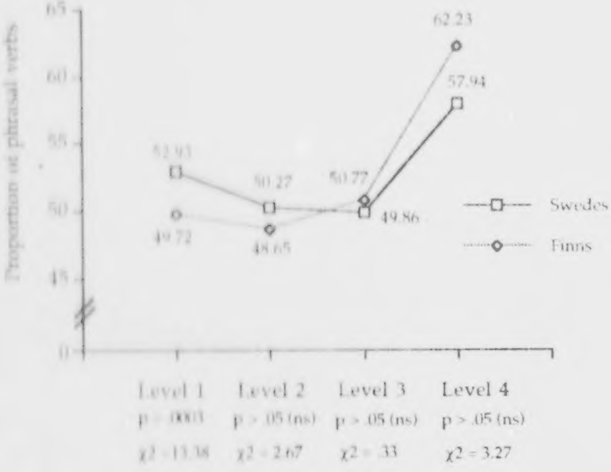

Figure 15. *Proportion of phrasal verbs preferred by Swedes and Finns at four levels of proficiency in total test (28 items).*

Figure 15 does not suggest any overwhelmingly clear tendencies, but seems to confirm what has previously been found, namely that Swedes seem to accept English phrasal verbs somewhat more often than Finns at the early stages of learning. This trend is broken at the later stages of learning where Finns are even more inclined than Swedes to choose phrasal verbs. What merits deeper analysis is, however, the slightly U-shaped curve that was found in the Swedes' preferences for phrasal verbs.

What has been documented so far about U-shaped behaviour in second language acquisition is that it tends to occur in the acquisition of holophrastically perceived, fixed multi-word expressions and that L1 influence plays a role in its manifestation. It could then be postulated that the acquisition of such multi-word expressions as phrasal verbs that have a literal equivalent in Swedish would lead to a U-shaped curve among Swedes, but not among Finns (who cannot be affected by L1). In fact, twelve of the items in the test contained Swedish-based phrasal verbs. In Figure 16 below, the proportion of selected phrasal verbs among these items are illustrated diagrammatically for both language groups.

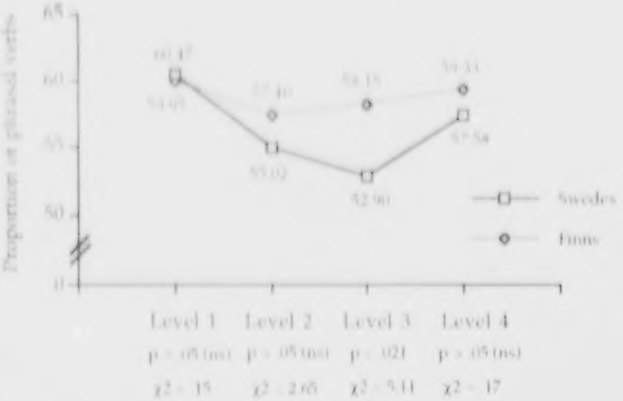

Figure 16. *Proportion of selected phrasal verbs among the twelve items containing Swedish-based phrasal verbs (idiomatic and non-idiomatic) at four levels of proficiency.*

Surprisingly enough it was the Finns, not the Swedes that were most inclined to choose Swedish-based phrasal verbs. As indicated in the diagram, Finns have preferred Swedish-based phrasal verbs somewhat more often than Swedes at all levels except at level 1. Yet these differences were statistically significant only at proficiency level 3 (at the level of .05). It is claimed here that the Finns' greater preference for Swedish-based phrasal verbs is largely caused by the seven Swedish-based phrasal verbs that were non-idiomatic (cf. Fig. 19, p. 191). These items (with transparent and Swedish-based phrasal verbs) will be treated in some detail in section 6.3. For the Swedes, the diagram above clearly shows a slightly U-shaped form with a successively decreasing curve at level 2 and 3 and with a marked rise at level 4. A chi square analysis indicated, however, that the differences between the successive levels were statistically significant only between level 1 and 2 where there was a considerable drop in the inclination to accept phrasal verbs ($p < .0001$; chi square = 16.68). It was assumed, however, that the U-shaped curve would be more marked with idiomatic, Swedish-based phrasal verbs. In Figure 17, the transparent (non-idiomatic) phrasal verbs were removed from the data, thus leaving us with the five items containing idiomatic, Swedish-based phrasal verbs (i.e. subtest OS+, cf. Fig. 11).

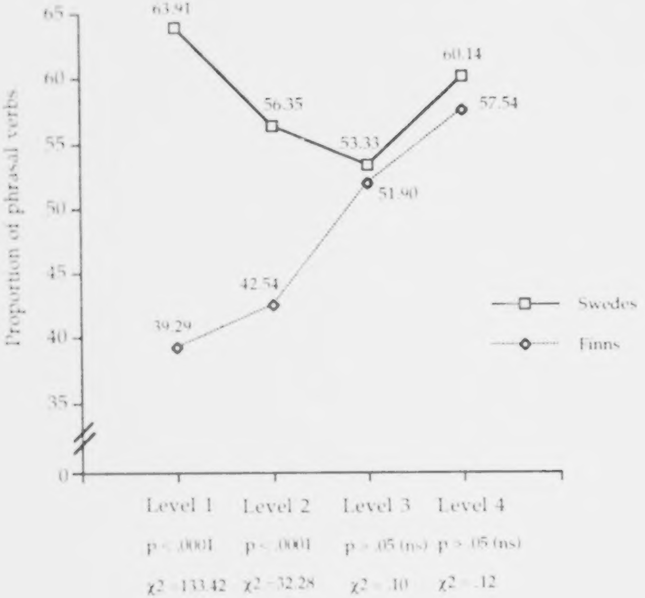

Figure 17. *Proportion of selected phrasal verbs among the five items containing idiomatic, Swedish-based phrasal verbs at four levels of proficiency.*

A comparison between Figures 16 and 17 shows some striking differences. The U-shaped pattern among Swedes is somewhat more marked among the idiomatic phrasal verbs than in Figure 16 (where also non-idiomatic phrasal verbs were included). Again, the chi square analysis indicated statistically significant differences only between level 1 and 2 ($p = .0002$; chi square = 13.16). The rise from level 3 to level 4 seemed steep enough, but the differences were not big enough to reach a statistical level because of the comparatively small number of items in this subtest paired with the relatively small number of subjects taking part at these levels. The pattern for Finns, however, had changed completely (at least in the early stages of learning). Finns were little attracted by idiomatic, Swedish-based phrasal verbs in the early stages of learning, but phrasal verbs were increasingly chosen in the later stages (cf. Figs. 11 & 12). The comparison between the two diagrams above supports our previous assumption that it was the Swedish-based phrasal verbs that were non-idiomatic (or transparent) that the Finns had been inclined to choose, not the idiomatic (or opaque) ones (see Fig. 16). It is also worth noting that Swedes have been more inclined than Finns to choose idiomatic, Swedish-based phrasal verbs at all levels of proficiency. It seems as if the semantic feature of opacity would account for the difference between Figure 16 and 17. In addition, it is assumed that L1 influence may play an indirect role for both language groups. For Finns, the category phrasal verbs may be less attractive initially because it is lacking in Finnish. In a choice situation between a phrasal and a one-part verb, the Finn will "avoid" an idiomatic phrasal verb because it is perceived as odd and peculiar and specific to English. Instead, the Finn will choose the one-part verb, because it is perceived as structurally more similar to Finnish and semantically a safer choice (i.e. by having a broader meaning).

How is then the U-shaped curve among Swedes to be explained? The following interpretation of the U-shaped data is proposed. Also among Swedes it is assumed that L1 influence plays a role. In the early stages, Swedes are more surface-oriented in their concerns and will adopt the initial assumption of parallels between L1 and L2. The phrasal verb tends to be transferred from Swedish and the result will coincide with that of native speakers. More proficient learners who have received more formal language instruction and who are metalinguistically more sophisticated will become sensitized to new semantic and pragmatic distinctions. In this phase, which is governed by organization-oriented procedures and top-down processes, the initial assumption of L1 and L2 equivalence has to be abandoned. The Swedish learners will, at this phase, become somewhat sceptical about the transferability of L1-based phrasal verbs and will instead choose equivalent one-part verbs. As a consequence, their performance will deviate from the target norm (hence the U).

6.3. The effect of semantic properties of the test material

When using a multiple-choice test of the kind used in this study, one has to consider that it does not test only the target items (i.e. the phrasal verbs), but the whole context including the pragmatic and semantic meanings of the phrasal and one-part verbs as well as the meanings of the distractors. In the interpretation of the test results, one has to take into consideration also the impact of the learners' developing metalinguistic awareness of language contrasts and similarities.

The third of the main research questions concerned the influence different semantic properties of phrasal and one-part verbs may have on learnability and transferability. It is argued here that core words and prototypical meanings of words are more easily learned than non-core and non-prototypical meanings. As a rule, core words and prototypical meanings of lexical items represent linguistically unmarked features of language. What is said above is in accordance with the general finding that unmarked forms have been found to be learned and transferred before marked forms (cf. Kellerman 1978). Let us consider that the test instrument used in this study comprised phrasal verbs, which in most cases were characterized as language-specific (marked) and semantically opaque (i.e. idiomatic), whereas the one-part verbs on the whole carried a broader and more general meaning. However, in eight of the items the phrasal verbs were judged to be semantically transparent (i.e. non-idiomatic) by two native informants, whereas the phrasal verbs were considered semantically opaque (i.e. idiomatic) in the rest of the items (18 items). It is argued here that learners from both language groups would make considerably fewer errors in the eight items containing semantically transparent phrasal verbs than in the items containing opaque phrasal verbs (Hypothesis 8). In Figure 18 below, the percentage of errors in the subtests with transparent (T) and opaque (O) phrasal verbs are plotted down for comparison between the two language groups. The error data in the diagram were drawn from all four levels of proficiency. Figure 18 indicates very clearly that both language groups had made considerably fewer errors in the subtests with transparent phrasal verbs, which was predicted in Hypothesis 8. A chi square analysis based on the difference in the proportion of correct and erroneous responses in the two subtests was performed.

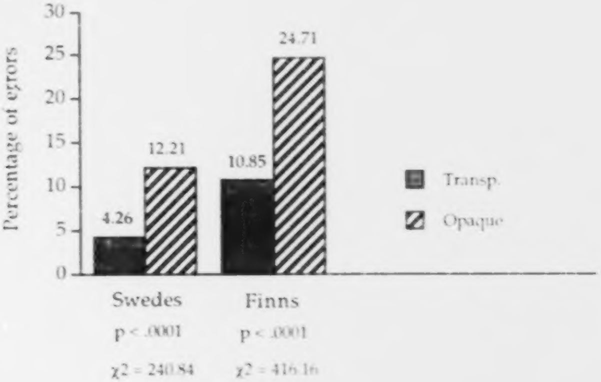

Figure 18. *Errors made by Swedes and Finns in subtest with transparent (T) and opaque (O) phrasal verbs.*

The analysis showed statistically significant differences for both language groups. It is argued here that some of the differences in the two subtests (T and O) must be due to the semantic properties of the phrasal verbs. The transparent phrasal verbs have attracted many learners (see Table 20) because of their universal and prototypical meanings, a fact that is calculated to keep down the percentage of errors. In addition, the phrasal verbs in subtest T were all except one Swedish-based, which might further contribute to their attractiveness. The one-part verbs in subtest T were for the most part of Anglo-Saxon origin and fairly frequent (see Table 22). All this contributed to reducing the number of errors. Similarly, it can be argued that one of the reasons why the items with opaque phrasal verbs have induced more errors than items in subtest T is that phrasal verbs carrying the feature opacity or idiomaticity tend to be less attractive or even avoided. Nor should the one-part verbs in subtest O be very attractive, since several of them are infrequent and of a foreign origin (see Table 22, p. 196). As a consequence, the dispersion of responses is extended over a greater range of alternatives (i.e. also the distractors have attracted the learners) and thus increases the number of errors.

A hypothesis related to the previous one is that both language groups would tend to choose transparent phrasal verbs proportionately more often than opaque phrasal verbs (Hypothesis 9). In Table 20 below, the data are given as a distribution of phrasal and one-part verbs in the same subtests as above. The data in Table 20 are again based on all four levels of proficiency, but with no heed taken of the errors. As indicated by the data, Finns especially have been attracted by transparent phrasal verbs much more than by opaque phrasal verbs. The trend is the same for Swedes but not equally strong. In fact, the preference for transparent phrasal verbs is for Finns (71.23 %) approximating that of native speakers of English (77.08 %). In comparison, 83.33 % of the native speakers preferred phrasal verbs in subtest O, which is considerably more than among the learners from both language groups.

Table 20. *Preferences for phrasal verbs in items with transparent (T) and opaque (O) phrasal verbs for Swedes and Finns.*

		Swedes		Finns	
		Subt. T (8)	Subt. O (18)	Subt. T (8)	Subt. O (18)
Phrasal verbs	f	2810	5055	3241	3833
	%	60.34 %	52.61%	71.23 %	44.36 %
One-part verbs	f	1847	4553	1309	4808
	%	39.66 %	47.39 %	28.77%	55.64 %
Total	f	4657	9608	4550	8641
	%	100 %	100 %	100 %	100 %

$\chi^2 = 75.40$; df = 1 ; $p < .0001$ $\chi^2 = 864.42$; df = 1 ; $p < .0001$

The differences were again highly significant for both language groups. The patterns above are somewhat different for Swedes and Finns. Among the Swedes, phrasal verbs have been preferred more than one-part verbs in both subtests. Among the Finnish learners, phrasal verbs have been greatly preferred in subtest T, but one-part verbs have been considerably more attractive in the subtest with opaque phrasal verbs. Transparency and opacity seem to be crucial semantic features in the interpretation of the data in Table 20. Among both language groups, the transparent phrasal verbs have been frequently chosen despite the one-part counterparts being readily accessible. According to the judgments of some expert informants, the one-part verbs in subtest T were fairly frequent and mostly Anglo-Saxon verbs. The semantically opaque phrasal verbs were not very attractive, though. Even though the one-part verbs in subtest O tended to be of foreign origin (Latin) and fairly infrequent, they were preferred by Finns (55.64%). Finally, it is worth mentioning that the design of this study presupposes the inclusion only of items where native speakers preferred the phrasal verbs. Thus the data in Table 20 did not include the two items where natives preferred the one-part verbs.

In fact, the test data in this study provide us with a fairly interesting example of the effect of prototypicality. This is so because the phrasal verb 'take off' occurs with both a prototypical (transparent) and non-prototypical (opaque) meaning in our test data. The phrasal verb in item 15 [*'take off' (remove) one's shoes...*], which designates an activity which people perform (i.e. a transitive verb), undoubtedly represents a prototypical (or transparent) exemplar of a set of form-meaning relations. In item 2, however, the same verb-pattern is used with a non-prototypical (opaque) meaning, designating an event that just happens without an apparent agent performing the action [*the plane 'takes off' (departs) ...*] (see Berman 1986, 206). In Tables 21a and 21b below, the transparent and opaque meanings of the phrasal verb 'take off' are compared with regard to how they are preferred by Swedish and Finnish learners. The tables below show very much the same trend for both language groups. The prototypical 'take off' was significantly more preferred than its non-prototypical counterpart by both language groups. Nor could the one-part verbs have created these results, because according to the judgements of our informants, these verbs were in both items regarded to be rather frequent with a central meaning.

Table 21a. *Preferences between the transparent and opaque meanings of 'take off' among Swedes (all four levels).*

	Item 15		Item 2	
	Phrasal verb	One-part verb	Phrasal verb	One-part verb
	Transp.	Centr./freq.	Opaque	Centr./freq.
	take off	*remove*	*take off*	*depart*
f	587	11	450	76
%	98.16	1.84	85.55	14.45

$\chi^2 = 60.55$; df = 1; $p < .0001$

Table 21b. *Preferences between the transparent and opaque meanings of 'take off' among Finns (all four levels).*

	Item 15		Item 2	
	Phrasal verb	One-part verb	Phrasal verb	One-part verb
	Transp.	Centr./freq.	Opaque	Centr./freq.
	take off	*remove*	*take off*	*depart*
f	573	14	387	81
%	97.61	2.39	82.69	17.31

$\chi^2 = 68.96$; df = 1; $p < .0001$

In Figure 16 in section 6.2, it was demonstrated that Finns were very inclined, even more inclined than Swedes, to choose Swedish-based phrasal verbs. However, if the Swedish-based phrasal verbs were opaque, the pattern was different. In fact, it was demonstrated that opaque Swedish-based phrasal verbs were considerably more chosen by Swedes, especially in the early stages of learning (see Fig. 17, p. 184). Hypothesis 10 claims that non-idiomatic (transparent), Swedish-based phrasal verbs are more chosen by Finns than by Swedes, especially in the early stages of learning. Transparent (non-idiomatic) phrasal verbs tended to comprise verbal elements which were unmarked, and which tended to have a meaning that was common to a wide range of languages (cf. Viberg 1993). This made them more accessible than opaque phrasal verbs which often carried a peripheral, language-specific meaning. Why then would Finns be more inclined than Swedes to choose transparent, Swedish-based phrasal verbs? In Figure 19 below the diagram demonstrates that this is so. The data in Figure 19 comprise 7 items.

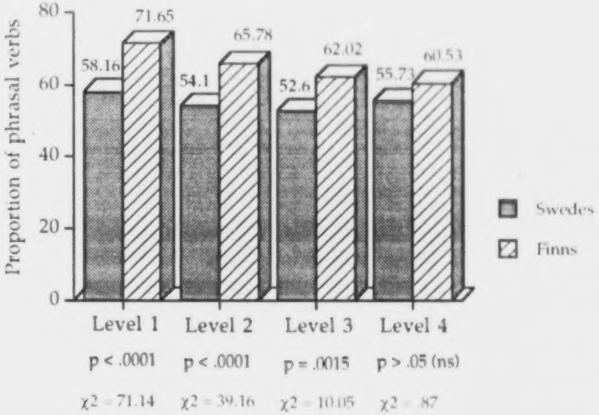

Figure 19. *Proportion of selected phrasal verbs among the seven items containing transparent, Swedish-based phrasal verbs at four levels of proficiency.*

The data in Figure 19 comprised the proportion of phrasal verbs out of the total number of correct responses. The rest of the correct responses consisted of one-part verbs. Because there were very few erroneous responses in this subtest (about 4 % for Swedes and 10 % for Finns), errors could hardly have had a great influence on the results. What is most conspicuous about the diagram above is that Finns have preferred these phrasal verbs much more than Swedes. The chi square tests showed statistically significant differences between the two language groups at all levels with the exception of level four. For the Finns, the curve is a descending one, whereas Swedes display a slightly U-shaped curve with increased English proficiency. The U-form was, however, not very marked, which is also shown by the fact that statistically significant differences were to be found only between level 1 and 2 (chi square = 5.36; df = 1; p = .0206). A comparison with Figure 17 (see p. 184), which comprised items with Swedish-based, but opaque phrasal verbs, shows some striking differences. For Swedes, the curves were U-shaped in both figures, but somewhat more so in Figure 17. As was mentioned above, Finns preferred transparent, Swedish-based phrasal verbs more than Swedes at all levels (Fig. 19), but for the idiomatic, Swedish-based phrasal verbs, the reverse was true (Fig. 17).

What is then the reason why Finns are so inclined to choose transparent, Swedish-based phrasal verbs in the early stages? It is believed here that the reason must somehow be related to the Finns' limited prior experience of these kinds of analytic, typically English constructions. Multi-word verbs of different kinds must probably fairly early be perceived as typically English by Finns, but initially the transparent ones are the most easily detected and the most easily comprehensible, and therefore they tend to be chosen. Because of the absence of phrasal verbs in Finnish, such distinctions as idiomaticity and non-idiomaticity of phrasal verbs are not yet fully developed among Finns. Swedes, on the other hand, are aware of such distinctions from their mother tongue. Therefore, it could be assumed that Swedes start from a somewhat more differentiated knowledge state of phrasal verbs than Finns. The Swedes' conception of the nature of English phrasal verbs is probably also influenced by the metalinguistic knowledge they have acquired through crosslinguistic identifications of different types of phrasal verbs. If the Swedes' prior L1 and L2 experience of phrasal verbs is "transferred" to the acquisition of English, the result may be a somewhat more cautious attitude towards an undifferentiated acceptance of English phrasal verbs. According to some Swedish-speaking informants, Swedes often assumed that phrasal verbs were typically idiomatic expressions, and transparent "phrasal verbs" such as *go down* and *take out* were regarded to represent Swedish-based, substandard English used by Swedish beginners who were not yet familiar with the standard English expression (i.e. the one-part verb). So if phrasal verbs turn out to be too

Swedish-like and too simple, some Swedes may have become sceptical about choosing them. For Finns, however, perceived similarity with Swedish may have made these phrasal verbs even more attractive. Increased exposure to English (and Swedish) leads to a more sophisticated metalinguistic knowledge, and the initial inclination to choose Swedish-based (transparent) phrasal verbs gradually declines. A possible interpretation here is that the Finns' decreased reliance on Swedish-based (transparent) phrasal verbs could be the first phases of a U-shaped behaviour. The mechanisms underlying the assumed U-shaped curve could here be explained in terms of the Finns having perceived the similarity between L3 (Swedish) and L2 (English). Because of the Finns' superficial knowledge of Swedish, only the most easily detected (and transferred) phrasal verbs (i.e. the transparent ones) are affected. Similarly, it is assumed that superficial Swedish knowledge will also lead to a postponement of the drop (and rise) in the performance to later stages of learning.

6.4. The influence of one-part verbs and distractors

As was suggested in section 5.2, one of the advantages of using a multiple-choice test in this study was that learners could easily be placed in a choice situation between a phrasal and one-part verb. A problem, however, is that the results of a multiple-choice test may be difficult to interpret, because the learner responses are likely to be influenced by the whole context including semantic and other properties of phrasal and one-part verbs as well as the meanings of the distractors. The data have so far been looked at very much from the perspective of the phrasal verbs, which are to be seen as the target items of the study. It is believed, however, that in a multiple-choice test like the one used in this study, the results may well have been influenced, even distorted, by various test internal factors such as the learners' perceptions of the meaning, frequency, and L1 (L3) similarity of both the correct one-part options and the distractors. In the following, the effects of test internal factors of the kind mentioned above will be examined. Is it, for instance, a plausible interpretation that transparent phrasal verbs are more "learnable" or easier to process than opaque phrasal verbs? At least the data in Table 20 seem to suggest that this is so. It could be argued, however, that the results in Table 20 might have been created by test internal factors such as great reluctance or great attractiveness of the remaining alternatives in the multiple-choice items. In the following, the possible effects of the one-part verbs on the test results in subtest T (transparent phrasal verbs) and subtest O (opaque phrasal verbs) will be looked at.

Is it reasonable to assume that the one-part verbs possess characteristics that make learners more inclined to choose them, or reversely, do they have semantic or other properties that make learners reluctant to choose them?

Let us first consider the feature centrality/periphery of meaning. An imbalance of the distribution of one-part verbs with peripheral (or central) meanings in the two subtests might bias the test results. In fact, no such imbalance was to be found in the two subtests. Only four one-part verbs with peripheral meanings were found altogether, two in each subtest.

Another factor that could distort the test results is the frequency and the "foreignness" of the one-part verbs. As has been noted earlier, many of the one-part verbs were of foreign origin (Latin or French), and additionally fairly infrequent. It is assumed here that the feature "foreignness", especially in combination with low frequency, will make a verb less attractive (and probably more difficult). To find out whether subtest T and O were equal with respect to the number of foreign-sounding one-part verbs, four linguistic experts were consulted.

The expert informants were all university teachers of English with long teaching experience. They were asked to judge which one-part verbs appeared most foreign, and which they judged to be Anglo-Saxon. The expert informants were asked to rate the "foreignness" of the one-part verbs on a three-grade scale. The first category comprised one-part verbs which were definitely foreign-sounding and fairly infrequent. The second category consisted of foreign verbs which because of their high frequency were perceptually assimilated with English. The third group of one-part verbs were indisputably Anglo-Saxon (see appendix 4).

Not surprisingly, the Anglo-Saxon one-part verbs were rated to be frequent, whereas the foreign (Latin, French) verbs on the whole were judged to be fairly infrequent. A re-examination of the items in subtest T (see Table 20, p. 188) indicated that the one-part verbs in this subtest comprised frequent Anglo-Saxon verbs. Therefore, the one-part verbs in this subtest must be regarded as accessible to the learners and should at least in principle be attractive options. A conclusion would then be that the strong preference for phrasal verbs in subtest T could not be a result of the properties of the synonymous one-part verbs, but is largely due to the universal or prototypical meanings carried by the constituent parts of the transparent phrasal verbs.

Subtest O (opaque phrasal verbs) turned out to be different from subtest T in several respects. Whereas the one-part verbs in subtest T were frequent Anglo-Saxon verbs, the majority of the one-part verbs in subtest O were infrequent foreign verbs. Yet some of the one-part verbs in subtest O were Anglo-Saxon and thus fairly frequent. A closer look at subtest O shows that it might be natural to split up this subtest into two different subtests on the basis of the characteristics of the one-part verbs. The first subcategory comprised 6 items with opaque phrasal verbs but with frequent Anglo-Saxon one-part verbs (subtest *O nat*). The remaining 12 items made up subtest *O for*, which contained opaque phrasal verbs and infrequent, foreign one-part verbs. The distribution of responses for subtest *T*, subtest *O nat*, and subtest *O for* is compiled in Table 22 below. The data are collected jointly for all four levels of proficiency.

Table 22. *Comparison of correct responses (phrasal verbs, one-part verbs) and errors in subtest T, subtest O nat, and subtest O for.*

22a		**Swedes**		
		Subtest T (8 items)	Subtest O nat (6 items)	Subtest O for (12 items)
Phrasal verbs	f	2808	1855	3195
	%	57.73 %	51.13 %	44.07 %
One-part verbs	f	1847	1691	2859
	%	37.97 %	46.61 %	39.43 %
Errors	f	209	82	1196
	%	4.30 %	2.26 %	16.50 %

22b		**Finns**		
		Subtest T (8 items)	Subtest O nat (6 items)	Subtest O for (12 items)
Phrasal verbs	f	3241	1321	2512
	%	63.50 %	34.74 %	33.09%
One-part verbs	f	1309	1955	2858
	%	25.65 %	51.42 %	37.65 %
Errors	f	554	526	2221
	%	10.85 %	13.83 %	29.26 %

Two major differences between Swedes and Finns emerged in Table 22. The first very obvious difference is that Finns have made considerably more errors. This difference, which has to do with language distance, was dealt with in section 6.1. Another striking difference is that Swedes have chosen more phrasal verbs than one-part verbs in all three subtests, whereas Finns have preferred phrasal verbs only in subtest T. In the two subtests with opaque phrasal verbs (O nat and O for), Finns have chosen proportionately more one-part verbs than phrasal verbs.

Let us then make a comparison between subtest T and subtest O nat. These subtests differ only with regard to the feature transparency/opacity among the phrasal verbs, whereas both subtests comprise frequent Anglo-Saxon one-part verbs. Therefore the difference between the results in these two tests must be attributable to the semantic feature transparency/opacity among the phrasal verbs. This interpretation is plausible for both language groups, because the percentage of errors is very much the same in both subtests (although Finns have made considerably more errors). A chi square analysis among the Swedes indicated statistically significant differences between the results in the two subtests (chi square = 78.85; p < .0001). Among the Finns, the difference between subtest T and O nat was even greater than among the Swedish subjects. The tendency for Finns to choose transparent phrasal verbs was stronger than among Swedes, and in subtest O nat the Anglo-Saxon one-part verbs had been very attractive. The difference between the two subtests was highly significant (chi square = 762.6; p < .0001). Subtest O nat and O for differ with respect to the characteristics of the one-part verbs. On the basis of these characteristics one could predict that the one-part verbs in subtest O nat would be more frequently chosen than those in subtest O for. In fact, the Anglo-Saxon one-part verbs in subtest O nat were proportionately more chosen in this test than in any of the other subtests. A comparison of the distribution of the responses between subtest O nat and O for indicated highly significant differences for both language groups (Swedes: chi square = 472.86; p < .0001; Finns: chi square 365.7; p < .0001).

Finally, let us compare subtest T and subtest O for. What immediately catches the eye in this comparison is that the infrequent foreign-sounding one-part verbs in subtest O for were proportionately much more frequently chosen than the frequent Anglo-Saxon one-part verbs in subtest T. (Swedes: chi square = 485.79; p < .0001; Finns: chi square = 1229.56; p < .0001). It is argued here that the principal explanation for this must be sought in the semantic characteristics of the phrasal verbs. Semantically transparent phrasal verbs are attractive choices for learners irrespective of L1, whereas semantically opaque (idiomatic) phrasal verbs are "avoided". An additional explanation of the "under-use" of opaque phrasal verbs could be that the one-part verbs in subtest O nat and O for had been chosen for "strategic reasons". Some of the learners may have used a "play-it safe" strategy, since the one-part verbs were regarded as a safer choice because of their more general meaning. The high percentage of errors in subtest O for could, however, have affected the test results to some extent. A comparison of the preference for phrasal verbs between Finns and Swedes suggests that L1 may have played a role. Swedes, who have very similar constructions in their L1 system, have tended to prefer phrasal verbs in all subtests. Finns, who lack "genuine" or idiomatic phrasal verbs in their L1 system, tend to avoid the opaque phrasal verbs. This could be interpreted as an indirect influence from L1.

To sum up, it seems that one could make the general conclusion that phrasal verbs whose constituent parts carry prototypical or core meanings and which can be characterized as semantically transparent, tend to be very attractive choices for learners irrespective of L1. In previous research, it has also been argued that L2 constructions (such as phrasal verbs) with no counterparts in the L1 system tend to be avoided (Dagut & Laufer 1985). Therefore, one could expect Finns to avoid or under-use English phrasal verbs, a fact that primarily must be attributable to indirect influence from L1 (structural reasons). This prediction was supported by the data containing idiomatic phrasal verbs, which were chosen significantly less by Finns. But it has also been argued that semantic (and pragmatic) factors may contribute to this kind of avoidance (Hulstijn & Marchena 1989). Evidence for this comes from the fact that also Swedes have chosen opaque phrasal verbs considerably less than native speakers of English. It is argued here that when the learner is placed in a situation of choice between an idiomatic phrasal verb and a one-part verb with a general, central and multi-purpose meaning, the latter may easily be chosen because it is considered a safer choice. Such a play-it safe strategy is a result of a choice between forms within L2 (cf. Sjöholm 1992, 142).

The results of a multiple-choice test may be biased or distorted also because some of the distractors are too attractive. This will unduly increase the number of errors. A very common reason for a distractor to become too attractive is influence from L1 (or L3). In the following, the items which contained too attractive distractors have been analysed. It seems reasonable to assume that if a distractor is chosen considerably more than the two correct alternatives, then it is to be considered over-attractive. Defined like this, distractors chosen by about 30 % of the subjects could be characterized as over-attractive.

In item 1, where *put off* and *postpone* were the correct alternatives, about 50 % of the Finns and 30-40 % of the Swedes had chosen the distractor *move up* at levels 1 and 2 (see appendix 6). For both language groups L1 influence seems to have played a role. The meanings of Finnish *siirtää* and Swedish *flytta* or *flytta fram* (the meanings of which are close to English *move*) are possible sources of influence here. *Move up* may also have been attractive because it contained the particle *up*, which is the most commonly used in phrasal verbs.

In item 16 with the correct alternatives *brush up* and *improve*, many Finns (25-30 %), but also some Swedes, had chosen **better up* which could possibly have been influenced by Swedish *bättra på*. In item 17, where *put up* and *raise* were correct, 20-25 % of the Finns and 15-20 % of the Swedes had chosen *rise* (levels 1-3). The reasons for this are quite clear, i.e. a confusion with the transitive (and correct) *raise*. In item 20, the distractor **give after* (from Swedish *ge efter*) had attracted more than 30 % of the Swedes (and almost 20 % of the Finns) at levels 1 and 2 (for the correct *give in* and *surrender*).

In item 21, 40 % of the Finns were attracted by the distractor **stand out with* (for the correct *put up with* and *tolerate*) at levels 1 and 2, whereas it was chosen by 30 % of the Swedes. This erroneous response was probably influenced by the literal Swedish equivalent *stå ut med*. In item 24, almost 30 % of the Finns, at levels 1-3, had been attracted by *turn up* (for the correct *go through* and *search*), whereas very few Swedes had chosen this distractor. Why Finns found *turn up* so attractive is not quite clear, but a possible explanation is, according to some Finnish-speaking informants, that they have drawn on similar Finnish expressions [e.g.. *kääntää taskut (nurin)* meaning approximately *turn the pockets inside out*]. Finally, in item 28, Finns have been very inclined (50 % at levels 1 and 2) to choose the distractor *fall over* for the correct *go under* and *collapse*. Interestingly enough, Swedes were not attracted by this distractor. A possible reason why Finns had chosen this distractor is that the derived meaning of *fall over* somehow resembles the meanings of the Finnish equivalents *kaatua* (*fall*) and *mennä nurin* (*go over*). Because similar word forms to *go under* and *collapse* exist in Swedish (*gå under, kollapsa*), they were both natural choices for Swedes.

How do then these over-attractive distractors affect the test results of this study? It is plausible to assume that these distractors are likely to increase the number of errors. Let us therefore look at the hypotheses set up in this study with this assumption in mind. The over-attractive distractors could primarily affect the hypotheses where the data comprised errors (Hypotheses 1, 2). The conclusion here is, however, that these distractors could not have distorted the data that supported these hypotheses to any greater extent, because the distractors that were too attractive were almost equally distributed among both language groups.

Also the predictions made by Hypothesis 8 was based on error data. The argument that the over-attractive distractors were more or less equally distributed among both language groups is not valid here, because the comparison was made between item types (items with idiomatic and non-idiomatic phrasal verbs). As a matter of fact, almost all distractors that were too attractive (six out of seven) occurred in items with idiomatic (opaque) phrasal verbs. Therefore, the over-attractive distractors might to some extent have increased the difference in errors among items with idiomatic and non-idiomatic phrasal verbs. It is argued here, however, that the enormous differences in errors displayed between items with idiomatic and non-idiomatic phrasal verbs in Figure 18 (p.187) can only to a lesser extent be attributed to the six over-attractive distractors. This is so because the test comprised as many as 18 items with idiomatic (opaque) phrasal verbs. The differences are probably also largely caused by semantic and other properties of the correct alternatives. Among the non-idiomatic phrasal verbs, such properties as transparency and universality of meaning as well as similarity to Swedish have probably reduced the number of errors. Similarly, the idiomatic phrasal verbs might have been perceived as language-specific and therefore less attractive. All this, in combination with a greater number of "foreign" one-part verbs, may have increased the number of errors among the items with idiomatic phrasal verbs.

So far, the distractors have been discussed as a factor that may make the interpretation of the data more difficult. Sometimes, however, the analysis of distractors may facilitate the interpretation of the data. In Hypothesis 10 it was postulated that the Finns' inclination to choose Swedish-based, non-idiomatic phrasal verbs was partly due to influence from Swedish (their L3). The argument was that if the selection of correct Swedish-based alternatives was influenced by Swedish among Finns, it would also be reasonable to assume that a similar influence would show up in their selection of Swedish-based distractors. Therefore, it was thought plausible to compare how Finns and Swedes reacted to Swedish-based distractors. It was postulated that a high frequency of selected Swedish-based distractors to some extent correlated with Swedish influence. The Swedish-based distractors were basically of three kinds. (1) Formally similar expressions that existed both in English and Swedish, but with different meanings (false friends)(e.g. _hit upon/hitta på_), (2) literal translations resulting in nonce expressions (e.g. _*stand out with/stå ut med_) and (3) nonce expressions with partly formal (and semantic) similarity with Swedish (e.g. _*better up/bättra på_). A total of six Swedish-based multi-word distractors were identified. In Table 23 below, the proportion of Swedish-based incorrect responses (multi-word distractors) are compared with the proportion of comparable non-Swedish-based incorrect responses among both language groups.

Table 23. *Comparison of the proportion of selected Swedish-based multi-word distractors with comparable non-Swedish-based distractors among Finns and Swedes (four levels).*

		Items with Swedish-based distractors (6 items)		Items with non-Swedish-based distractors (22 items)		
		Swedes	**Finns**		**Swedes**	**Finns**
Correct	f	2967	2677	Correct	12489	11716
responses	%	81.33 %	69.93 %	resp.	93.37 %	83.47 %
+Sw	f	522	712	-Sw	452	1412
distract.	%	14.31 %	18.60 %	distract.	3.38 %	10.06 %
Other	f	159	439	Other	435	908
distract.	%	4.36 %	11.47 %	distract.	3.25 %	6.47%

Table 23 clearly indicates that Swedish-based distractors have been very attractive among both language groups. The percentage of chosen Swedish-based distractors is even greater among Finns, but this is somewhat misleading, because Finns generally speaking make more mistakes than Swedes. A comparison with the distribution of comparable responses among the items with non-Swedish-based distractors shows that the Swedish-based distractors have been chosen considerably more often than comparable multi-word distractors in the rest of the items. The inclination among both language groups to select Swedish-based distractors has been taken as evidence of Swedish influence. It is possible, though, that the two subtests in Table 23 above are not completely comparable because of the different sizes of the tests. Anyway, it seems accurate to claim that the data in Table 23 give support to the assumption that also Finns are influenced by Swedish. This finding of Swedish influence among the distractors has been interpreted as indirect evidence that the strong inclination for Finns to choose transparent, Swedish-based phrasal verbs is partly a result of Swedish influence (see Fig. 19, p. 191).

7. Concluding discussion

The general purpose of this study was to gain new insights into how learners learn an additional language after they have acquired their first language. More specifically, the questions addressed in this study were concerned with how the knowledge of different types of English multi-word verbs (phrasal verbs) develop among intermediate and advanced Swedish- and Finnish-speaking learners. It was assumed that elicited learner data on English phrasal verbs would yield results which could contribute to the development of a theory of second language acquisition. Data on phrasal verbs were believed to be theoretically interesting because they are structurally positioned somewhere between lexis and grammar. Recent research has shown that these areas of language, which comprise different kinds of patterns of more or less frozen multi-word expressions, may be relevant to the "rule-forming" process in second language acquisition. More explicitly, the issues of this study could be summarized in two general aims:

(1) To inquire into how different learner internal (prior linguistic knowledge; L1, L2, L3 etc.) and learner external (input) factors affect the process of second language acquisition.

(2) To reveal under what conditions crosslinguistic influences of different kinds (L1 influence, L3 influence, L1 induced avoidance etc.) occur in second language acquisition.

These general aims were further divided into four main research questions from which ten hypotheses were deduced (see p. 108).

These questions were all based on comparisons of elicited learner data between Finnish and Swedish learners of English. The first question was concerned with how the acquisition of English phrasal verbs is affected by L1-L2 distance. In the second question, an atttempt was made to establish the effects of different types and amounts of input on the acquisition of English phrasal verbs. The third question attempted to investigate if the semantic properties of the phrasal verbs had any effect on the learners' L2 acquisition. Finally, the fourth research question attempted to assess how the insights of this study may contribute to the development of a theory of second language acquisition. To obtain answers to the research questions above, a specially designed test instrument was developed. These tests were given to Finnish- and Swedish-speaking learners of English who were comparable with respect to educational and cultural background (see section 5.3, p. 131). The subjects of this study had basically acquired English in a classroom context.

7.1. Theoretical and methodological foundations of the study

This section characterizes the theoretical and methodological foundations of the study. The starting-point will be the two general aims set up in this study. It is to be understood that the effects of learner internal and learner external factors on second language acquisition (aim 1) and the conditions under which crosslinguistic influence occur in second language acquisition (aim 2) cannot be established separately, but are interconnected phenomena. One of the principal learner internal factors dealt with in this study was the learner's L1 (Swedish or Finnish) and the effects that L1 might have on the acquisition of phrasal verbs. In fact, the general idea was to compare the effects of certain learner internal and learner external variables among Finns and Swedes while keeping certain other variables equal (see 4.1). Thus the effects of L1-L2 distance were compared while other learner background characteristics were controlled (see 5 3). The study was also focussed on how varying degrees of exposure to classroom and natural input would affect the acquisition of phrasal verbs among Finns and Swedes. The last question treats the effects of the semantic properties of phrasal verbs and one-part verbs on L2 acquisition and transferability.

It is to be understood that at least two factors may have limited the generalizability of the results in this study. The first factor is the specific social setting in which the data were collected. The second factor is to what extent the data on the acquisition of phrasal verbs are generalizable to other areas of language and to language as a whole. The answer to the latter issue is dependent on what position is assigned to phrasal verbs (as well as lexical phrases, idioms, and formulae etc.) in a general descriptive framework of second language competence and second language acquisition. In the following, these two factors will be discussed in turn.

Firstly, an attempt will be made to characterize in what kind of learner environment (e.g. natural or classroom) or social setting the research has been conducted. Much of the early SLA research was focused on isolated learner utterances which were analysed in various ways. Little heed was taken to the situational context in which these utterances were produced. In more recent research, however, a broader view of SLA-research has been adopted. Thus the object of research is no longer restricted to learner outputs (i.e. linguistic products), but attention is also paid to learner inputs as well as to the situational context in which the second language data are produced (cf. Fig. 2, p. 32). One of the problems with integrating the situational context in SLA-research is that there is such a tremendous diversity of contexts of second-language development. Even if we primarily limit our field of inquiry to English as a second-language development in classrooms as in this study, the potential for variation may be enormous. What is meant by English as a second language in a classroom context can also vary greatly. As stressed by van Lier, one can basically take a *micro* or *macro* view (van Lier 1988, 7). According to van Lier, the "former might be described as discoursal or interactive context", whereas the latter could be seen "as a socio-cultural context." (1988, 8). Van Lier listed five aspects of classroom context, which by no means give a complete picture, but when taken together, they might produce that undefinable quality that has been referred to as "the *dynamics* of classroom work" (1988, 8).

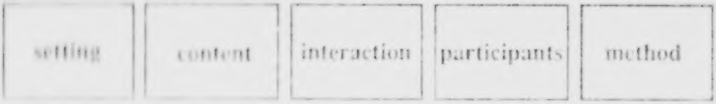

Figure 20. Aspects of classroom context (according to van Lier 1988, 8).

In the following, the five aspects of classroom context referred to in Figure 20 will be applied to the Swedish and Finnish subjects of this study. It was assumed that no greater differences with regard to the five aspects of classroom context were to be found between Finns and Swedes. The first contextual aspect in van Lier's list is referred to as *setting*. By setting he means among other things "availability of L2 outside class", and "status of L2 relative to L1" (1988, 8). It seems reasonable to assume that the availability of English input outside class had been equal between Finns and Swedes, because the subjects of this study were found to be adequately representative samples of two language groups sharing a relatively uniform cultural and educational background (cf. section 4.1. pp. 96-97). Nor did the two language groups show any significant differences as to exposure to "natural input" as measured in length of stay in English-speaking countries (cf. section 5.3 pp. 143-144). Also with respect to other contextual features characterized as 'setting', no differences were judged to exist between the two language groups.

The second of van Lier's contextual factors relates to *content*. It was argued that Finns and Swedes were comparable with respect to content features. It was assumed that the uniform Finnish educational system would not admit great variations in syllabus content. As a matter of fact, the instruction in English in Finnish schools aims at the same national matriculation examination for both language groups. Finns and Swedes follow basically the same curriculum (the same school laws apply), the course-based syllabus in English is also the same as well as several of the English textbooks.

The frequency with which the contextual feature of *interaction* occurs in instruction probably varies greatly between schools.

Much of these variations are probably levelled out in a study including subjects from a large number of schools. This process of different contextual features of interaction being balanced up between schools is assumed to be of a similar kind for Finns and Swedes, and thus we cannot expect that the two language groups would differ significantly.

The fourth contextual feature refers to the *participants*. Here van Lier includes basic learner characteristics such as age, sex, attitudes/expectations. Other features pertaining to the participants are size of group, prior schooling, and socio-economic status (1988, 8). As far as age and sex are concerned, no statistically significant differences were found between the Finns and Swedes (cf. section 5.3). Concerning the participants' attitudes, it has earlier been argued that learners from both language groups are likely to have a positive attitude towards the English language as well as Anglo-American culture (cf. 4.1). Although it is true that all schools are different, it is also a fact that the Finnish educational system in the seventies and eighties could be characterized as fairly uniform and homogenous. Classroom work tended to be strongly regulated by the school laws and the National Board of Education (Sw. utbildningsstyrelsen) and little room was left for individual schools to develop their own profiles.[22] From what has been said above, one could assume that Finnish- and Swedish-speaking subjects in this study have undergone basically the same kind of prior schooling (cf. 4.1, pp. 96-97). Finally, as was argued in section 4.1, we have reason to assume that also the socio-economic status of the Finnish and Swedish participants was comparable.

The fifth of van Lier's contextual aspects is *method*. Under this heading he lists such contextual features as "teacher/learner roles", "learner autonomy", and "type of syllabus" (1988, 8). It is of course not possible to exclude the possibility that there are different traditions of method in Finnish- and Swedish-speaking schools. On the other hand, the common national examination system (studentexamen) is a guarantee that such differences, if they exist, are minor.

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[22] From 1994, however, the new curriculum encourages individual schools to develop their own curricula and their own profiles both at the comprehensive school and upper secondary school level. See *Grunderna for Grundskolans Laroplan*, 1994; *Grunderna for Gymnasiets Läroplan*, 1994.

Because of the diverse nature of second language acquisition data collected in thousands of different classrooms all over the world in numerous different languages with people of different ages and backgrounds, it may be dangerous to draw conclusions which can be said to be universally valid. But as Seliger notes: "In spite of such infinite diversity there exists the universal fact that human beings of all ages, attitudes, levels of intelligence, socioeconomic background, etc., succeed in acquiring L2s in a wide variety of both naturalistic and formal settings" (1984, 37). Why and how learners accomplish this and why some fail to do so has motivated SLA research during the last twenty years or so. In this study, however, the classroom contexts of the Finnish- and Swedish-speaking subjects seem to be fairly similar. Therefore, it is assumed that the empirical results of this study cannot be biased by contextual factors to any greater extent.

The kind of general descriptive framework of language and language acquisition that has been adopted will also limit the scope of the study. What is it that natural languages consist of, or what kind of a process is second language acquisition? This question may also refer to how the target items of this study (i.e. the phrasal verbs) are to be related to a general descriptive framework of language and language acquisition. In a recent symposium, Pawley (1994) argues that there are basically two ways of describing language knowledge. The traditional view is that language is seen as a code having a creative power capable of specifying an infinite number of grammatical strings and pairing these with meanings and pronunciations. The generative power of a code consists almost entirely in rules of grammar and is largely independent of particular cultures. The lexicon in this language description comprises a list of just those meaning-form pairings not reducible to rule. Pawley (1994) speaks of such constructs as *grammarians' languages*. It is possible, however, to look at languages in other ways. Pawley argues that languages can also be viewed as codes highly adapted to the institutions of particular cultures. The command of these kinds of language codes implies that speakers must be able to talk about subject matters that commonly engage members of the target language community very much in the same way as fully socialized members of the target culture do. Pawley (1994) calls constructs of this kind *subject-matter languages*. In the descriptions of subject-matter grammars are also included such performance-like elements as various kinds of speech formulas, lexical phrases, idioms, and collocations (cf. Fig. 3, p. 67). It is assumed that the code of subject-matter grammars is more susceptible to development in a target language community context than in traditional classrooms. However, the fairly frequent use of communicative language activities in modern language classrooms as well as the fact that a great proportion of the subjects have been abroad is a guarantee that some kind of subject-matter code must have developed among the participants in this study.

For several different reasons, phrasal verbs were selected as the target items of the study. Firstly, they represent language elements which are more compatible with the code of subject-matter languages than that of grammarians' languages. Secondly, the subjects taking part in this study have differentially been exposed to both classroom input and natural input. Thirdly, approximately half of the subjects have phrasal verbs of a very similar kind in their L1 as in English, whereas the other half of the subjects do not have them in their L1. More explicitly, the subjects of the study comprised 608 Swedish and 638 Finnish learners of English who were judged to have a comparable background. In fact, the data represented four comparable levels of proficiency among both language groups (see Table 8, p. 139).

The purpose of this study was to attempt to increase our knowledge of the mechanisms underlying the learnability and transferability of English phrasal verbs. In order to obtain empirical verification of the research questions set up in this study, a multiple-choice test containing two correct alternatives was designed. As one of the main issues in this study was to find out how and why learners with different backgrounds (and L1's) choose between the two correct alternatives (phrasal and one-part verbs) compared with native speakers of English, too many errors were not wished for. On the whole, the percentage of errors was very low, and the responses tended to cluster around the two correct alternatives. Only at level 1 and 2 among the Finns did the percentage of errors exceed 20 %. A problem with this test is, however, that we cannot be sure if the test results reflect knowledge of English phrasal verbs or whether it is the learners' growing linguistic awareness and metalinguistic knowledge that is measured. On the other hand, metalinguistic knowledge is generally regarded as an integrated part of second language knowledge (see Marton 1988, 117). It was also believed that there were certain advantages in using a multiple-choice test. Firstly, it was believed that the learners' knowledge of English phrasal verbs could be directly captured in a MC-test, if it was correctly constructed. To increase the reliability and validity of the test instrument, a preliminary version of the test was first administered as a pilot study, and later, after some revision, the final version of the test instrument was used. Another advantage was that this multiple-choice test was capable of providing us with fairly strong evidence for avoidance, and in addition, it was the most practical test format in an extensive study like this.

7.2. The main results of the study

In this section, the main results of this study will be discussed and examined with reference to our current theoretical knowledge of second language acquisition. The four main research questions will be examined in turn (see Chapter 4.4, p. 109).

Language distance and L1 influence

The first research question was concerned with the effect of L1-L2 distance (objective and perceived) on the learning of English phrasal verbs among Finns and Swedish-speaking Finns. Traditional contrastive analysis emphasized the importance of language distance as an objective estimation of degree of similarity between languages. Early contrastive analysis also tended to equate language distance with learning difficulty. In the first hypothesis of this study, which stated that Finns would make more errors than Swedes in a test with phrasal verbs, it was assumed that the number of errors was, if not a good, then at least a reasonable measure of learning difficulty in the initial stages of learning. Although the test instrument used in this study was not primarily designed to elicit errors, Table 12 (p. 159) indicated that Finns committed more than 10 percentage points more errors than Swedes, which is a highly significant difference.

It is argued here that the differences between Finns and Swedes must primarily be attributable to language distance factors. It is assumed that these differences result partly from objective measures of distance, and partly from the subjective judgments of language distance by learners. Another way to explain the differences in errors between Finns and Swedes would be to say that Swedes and Finns start from slightly different "knowledge states" when learning English. The close similarity between Swedish and English, and, as in this test, the fact that phrasal verbs exist as a category in Swedish but not in Finnish, must free some processing capacity for Swedes in the initial stages, a fact that is likely to reduce the number of errors. The results above could also be said to be congruent with the view that cross-linguistic similarities and differences affect the length of time needed to achieve a high degree of mastery of a language.

In fact, native speakers of one language often believe that certain other languages are hard to learn. So far little research has been carried out to demonstrate the validity of this belief, but some relevant evidence does exist, such as the estimates of time it takes for Americans to learn various languages (see Ringbom 1987, 66) and the differing lengths of language courses offered to members of the U.S. diplomatic corps (see Odlin 1989, 39). The notion of language distance is clearly discernible in the differing course lengths seen in these data. The most difficult languages are generally those that share few similarities with English (e.g Arabic, Finnish, Chinese, and Japanese), whereas the least difficult languages, "as determined by course lengths, are mainly Germanic and Romance languages, which are similar to English in many respects." (Odlin 1989, 40).[23]

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[23] One might argue that "correct" methods of teaching could eliminate the differences in course lengths, but as Odlin puts it, "the logic of the argument leads to predictions that are, to say the least, implausible." (Odlin 1989, 41).

In Hypothesis one it was also specified that the tendency for Finns to commit more errors than Swedes in the test would be most marked in the early stages of learning. The data clearly supported this prediction. Figure 9 (p. 160) showed that Finns committed nearly 12 percentage points more errors in level 1 and 2, but the differences gradually decreased in level 3 (5 percentage points) and level 4 (less than 2 percentage points). The results above are congruent with current expert views of second language acquisition. Thus most psycholinguists would agree that the influence of L1 is most marked in the early stages of L2-learning (Taylor 1975; Ringbom 1987; Dechert 1989).

In Hypothesis two, also pertaining to language distance, it was claimed that Swedes would commit fewer errors among items containing correct Swedish-based alternatives than among items where the correct alternatives were non-Swedish-based. In this study, an alternative was defined as Swedish-based if it had an easily detected crosslinguistic link to Swedish at some linguistic levels, here usually referring to the graphemic-phonological and the lexico-semantic levels (e.g. Eng *go out*/Sw *gå ut*; Eng *explode*/Sw *explodera*).[24] A glance at the data very clearly indicated that Swedes committed considerably fewer errors among items with Swedish-based alternatives (Fig. 10a, p. 162) than in items with non-Swedish-based alternatives (Fig. 10b, p. 163). As a matter of fact, a similar trend could be discerned among the Finnish learners, but it was not equally strong as among the Swedes. By comparing the data in Figures 10a and 10b, it was found that the differences in the number of errors between Finns and Swedes were considerably larger in the subtest with Swedish-based alternatives (see Fig. 10c, p. 164). These data seem to lend some support to the hypothesis stated by many linguists that L1-L2 similarity is to be seen as facilitative to second language learning, not an obstacle (cf. Wikberg 1979, 157). Some researchers have most ardently emphasized the role of similarities in second language acquisition research. Thus Ringbom, for instance, advocates a change of focus in the study of the processes underlying learner language: "we should focus on similarities, not on differences." (1987, 32).

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[24] Faerch and Kasper (1987) use the term *transfer load* to refer to *how much* of a given L1 rule or item the learner transfers to L2 (1987, 118).

In the following, the results above will first be interpreted in terms of traditional contrastive analysis, which is based on objective estimations of L1-L2 distance (i.e. the potential for transfer). In fact, it seems as if the data of this study more or less supported the assertion made by traditional CA proponents that structural differences between L1 and L2 would lead to serious learning problems whereas L1-L2 similarities would facilitate second language learning. At least this seems to be true of the initial stages of learning. This interpretation is of course true only if we can accept errors as a reasonable measure of learning difficulty.

It has also been suggested that learning difficulty and willingness to transfer ought to be assessed according to the learner's subjectively perceived distance between L1 and L2 (Kellerman 1983). Some attempts have recently been made to reveal these kinds of subjectively perceived internal processes among second language learners. Thus Dechert (1989) tried to identify the mental models underlying second language acquisition among seven advanced German learners of English. After compiling their introspective reports, he found primarily two kinds of mental models among his informants. One of these models very much coincided with current expert models of second language acquisition and was characterized as follows:

> The acquisition of a second language is characterized by a gradual decrease of L1-L2 interaction and the anticipation of a final separation of the two systems, that is the establishment of an L1-independent L2-system.(1989, 221).

This model, which has frequently been proposed in second language acquisition literature in recent years, could be described as a *link schema* superimposed with a *path schema* (Dechert 1989, 221). Through the link schema, which is a fundamental organizational category of cognition, we may perceive or construct similarity and connectivity. Applied to second language acquisition, the linkage implies the perception of a common experiential gestalt for the linking of two points, which may "express the close functional relatedness of semantic similarity between the L1 and L2 in question." (Dechert 1989, 222). The results presented above can easily be explained with reference to a link schema. In the early stages, when there is a close interdependence between the L1 and L2 systems, the potential points of linkages between L1 and L2 must be much more frequent among Swedes than among Finns, a fact that is likely to lead to a reduced number of errors among Swedes.

According to the mental model presented above, the early linkage between L1 and L2 in the acquisitional process is gradually loosened and will finally result in the emergence of an independent L2 system.[25] This leads to the description of language acquisition in terms of a path schema. According to Johnson (1987), paths must have a starting point (A), a real or anticipated goal (B), and a sequence of stations between point A and B (1987, 113). In fact, a combined link and path schema of the kind described above will supply us with a plausible explanation to the error patterns displayed in this study. The learners' decreasing L1 reliance and the ever increasing exposure to L2 input has led to the evening out of the differences in errors between Finns and Swedes in the later stages of learning.

So far the effects of language distance on the L2 acquisition have been measured as difference of percentage of errors made by Swedes and Finns. Language distance may, however, also be examined from the point of view of how the subjects among these two language groups tended to choose between phrasal and one-part verbs. On the basis of the information received from the pilot study when the test instrument was tried out, it could be assumed that learners from both language groups very often found themselves in a choice situation between the phrasal verb and the one-part verb. In hypothesis three, it was claimed that Finns, because of the lack of genuine (i.e. idiomatic) phrasal verbs in Finnish, would tend to choose them less often than Swedes, who had them in their L1. Finns were for structural reasons believed to under-use or even avoid phrasal verbs in the early stages and prefer the one-part verbs (cf. Dagut & Laufer 1985). The data in this study supported this (Figure 12, p. 167). Figure 12, which contained idiomatic phrasal verbs only, indicated that Finns were considerably less inclined to choose idiomatic phrasal verbs than Swedes, especially in level 1 and 2. In level 4, however, the Finns preferred the phrasal verbs more than the Swedes. Because the phrasal verbs occuring in Figure 12 had no equivalents in Swedish, the Swedes could have no direct advantage over Finns. Therefore it was argued that these results were primarily attributable to structural sources, i.e. some kind of indirect influence from Finnish (under-use, avoidance). These differences may also partly have been created by some kind of general advantage (positive transfer) among Swedes because phrasal verbs exist in Swedish as a category. With related languages similar kinds of results have been reported by Ard and Homburg (1983) who showed that the facilitative effects of lexical items are extended to items that show no overt similarity.

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[25] Recent research in bilingualism suggests, however, that it is very unlikely that a fully independent and separate L2 system will ever develop among learners. It has been argued that linguistic levels may be differently organized in the learners' minds. Thus some researchers (e.g. Faerch & Kasper 1989; Cook 1992) suggest that the subsystem of the lexicon is organized as a single system in the learners' minds where both languages are combined in some form (cf. 82 ff.).

To sum up, the data in this study provided definite support for all the three hypotheses concerning language distance. As predicted in the first hypothesis, Finns committed significantly more errors than Swedes, the differences being most marked in the early stages. In Hypothesis two it was demonstrated that Swedes have an advantage over Finns in items where there is an overt similarity between Swedish and English among correct alternatives. Finally, as predicted in Hypothesis three, Finns preferred opaque phrasal verbs less often than Swedes, especially in the early stages of learning.

Input and the acquisition of phrasal verbs

Research question two treated the effects that quantity and quality of input may have on the acquisition of phrasal verbs. Quantity of input was operationalized as the total time the subjects had been engaged in learning the target language. More concretely, quantity of input was operationalized either as the number of years the learners had been exposed to formal classroom teaching of English, or grade in English in the school report. As regards grade in English, it was assumed that it was a result of the time and effort learners had given to their studies of English. There are additionally a whole range of cognitive factors (e.g. metacognitive skills, skills to use learning strategies etc.) affecting the quantity of input, but no adequate data were available for these learner internal variables in this study. As to quality of input, two 'qualitatively' different types of input were dealt with. The first type of input was one that could be characterized as predominantly formal classroom teaching. The second type of input contained in addition to formal classroom teaching also a fair amount of 'natural' input which learners had been exposed to in some of the target language countries (England, America etc.). Exposure to natural input was hypothesized to be crucial to a full understanding of English phrasal verbs.

Hypothesis four stated that learners (both Finns and Swedes) would choose phrasal verbs less often than native speakers of English, especially in the early stages. Hypothesis four was confirmed by the data. Data from the total test (Table 13, p. 171) showed that intermediate level learners of both language groups preferred phrasal verbs considerably less than advanced learners. However, the table also indicated that native speakers preferred phrasal verbs significantly more than the learners from both language groups. The differences between learners and native speakers were still more marked in the subtest with idiomatic, non-Swedish-based phrasal verbs. Data (Table 16, p. 174) showed that the learners' preferences for phrasal verbs in this subtest were between 39.5 % and 52 %, depending on the marks they had received in English, whereas the native speakers' preferences in the same subtest were as high as 84.6 %.

It is self-evident that learners quantitatively have been less exposed to language input than native speakers. This paucity of input (especially of natural input) must lead to a decreased socio-cultural competence which is often a prerequisite for idiomatic language use. Furthermore, there is reason to assume that the second language learners' input had contained a great many highly frequent, high-utility words. As has previously been argued, the input received by second language learners could have been biased towards writing (where phrasal verbs occur less often). It can also be surmised that relatively little attention has, until very recently, been focused on phrasal verbs in classroom instruction, teaching materials, and school grammars. Language input serves as a sample-giver to learners and deficient and unrepresentative input may therefore lead to a distorted picture of what is good English.

The reason why not only Finns (cf. Hypothesis three), but also Swedes had avoided phrasal verbs is probably also partly due to the semantic properties of the one-part verbs. Idiomatic phrasal verbs especially are perceived as language-specific by many learners and therefore the one-part verb, which had a broader and more general meaning, is a safer choice (cf. Hulstijn & Marchena 1989, 250). From the brief analysis of learner data above, it can be concluded that one-part verbs often constitute a more plausible choice to language learners, especially to less advanced learners, which was also claimed in Hypothesis four.

The second hypothesis pertaining to input (Hypothesis five) stated that increased classroom input would lead to a greater preference for phrasal verbs. Support for this hypothesis was found primarily in the subtest with idiomatic, non-Swedish-based phrasal verbs. Thus, Table 16 (p. 174) shows that the subjects who had received high marks in English had preferred phrasal verbs significantly more than those who had received low marks. Similarly, the classroom input groups (Finns and Swedes) that had received high grades in English had preferred opaque phrasal verbs significantly more than the matched classroom input groups that had received low grades (Figures 13 and 14, pp. 178-179). From the data above, one can draw the conclusion that also classroom instruction is beneficial to the development of competence in phrasal verbs.

In Hypothesis six, however, it was stated that only learners who had been exposed to a considerable amount of natural input would approximate the performance of native speakers in a test with phrasal verbs. The reasoning behind this hypothesis is that the meanings of many phrasal verbs (which is probably true also of prefabricated patterns, idioms, proverbs and the like) are so closely tied up with the socio-cultural competence of the target culture that their full understanding is achieved only in the socio-cultural context of the target language. To study the effects of natural input on the acquisition of phrasal verbs, a matching procedure was used. The first step was to identify a group of learners who had been abundantly exposed to natural input (ten months or more) among both language groups. The next step was to match this group with another group that was identical on all crucial variables with the original group. The only difference was that the original group had been exposed to natural input (more than two years on average), whereas the matched group had not been exposed to natural input at all, i.e. no one had visited English-speaking countries. The result of the matching procedure indicated that learners in the natural input groups were considerably more inclined to choose phrasal verbs than learners in the matched classroom input groups (see Tables 17 and 18, p. 176). The learners in the natural input groups were especially inclined to choose phrasal verbs in the subtest with opaque, non-Swedish-based phrasal verbs. It is also remarkable that Finns and Swedes were equally inclined to choose phrasal verbs in the natural input groups mentioned above (see Figure 14, p. 179). In the classroom input groups, however, Figure 14 shows that Swedes have preferred phrasal verbs slightly more than Finns.

So far, it has been demonstrated that an increased quantity of input (classroom or natural) leads to a more native-like performance with phrasal verbs. It was also argued, however, that the development of the learners' knowledge of phrasal verbs in a predominantly formal, classroom setting would not be a linear one, if L1 and L2 are closely related. In fact, it was hypothesized (Hypothesis 7) that Swedes would tend to choose Swedish-based phrasal verbs in a U-shaped fashion. These phrasal verbs were believed to be preferred in the early and advanced stages, but 'avoided' in the intermediate stages. Hypothesis seven was based on the reasoning that Swedes in the initial stages, while still rather surface-oriented in their concerns, would tend globally to transfer phrasal verbs as unanalysed units (cf. Strauss & Stein 1978). The prediction was that more proficient Swedish learners, who have become sensitive to the mismatch between transparent and opaque meanings of idiomatic expressions in L1 and L2, would be more hesitant to transfer opaque phrasal verbs especially. Thus one could expect a test result which showed that those Swedes who had received less language input seemingly performed better than those who had received more language input. In fact, Figure 16 (p. 182), which comprised all the items with Swedish-based phrasal verbs, very clearly indicated a U-shaped pattern among Swedish learners.

Somewhat surprisingly, however, Figure 16 showed that Finns were even more inclined than Swedes to choose Swedish-based phrasal verbs. This result is probably due to two factors. Firstly, some of the intermediate level Swedes rejected Swedish-based phrasal verbs because they were too Swedish-like. Secondly, the Finns were believed to over-use transparent, Swedish-based phrasal verbs. It was believed that Finns were attracted by transparent phrasal verbs because they were easily comprehensible. In addition, some Finns probably perceived their similarity with Swedish, which might have made them even more attractive (see Fig. 19, p. 191). Evidence for the over-use of transparent, Swedish-based phrasal verbs among the Finns could be established by comparing the curves in Figures 16 and 17. In the last mentioned figure, which contained opaque Swedish-based phrasal verbs only, the pattern for Finns differed very much from that in Figure 16, where both transparent and opaque Swedish-based phrasal verbs occurred. Finns were (Fig. 17, p. 184) less inclined than Swedes to choose phrasal verbs at all four levels of proficiency, and at the early stages the differences between the two language groups were remarkably large. In fact, the curve for the Finns was similarly shaped to the one containing non-Swedish-based phrasal verbs in Figure 12. Thus it seems that Finnish learners have made almost no crosslinguistic links to Swedish among the opaque Swedish-based phrasal verbs. At level 4, however, there might have been some Swedish influence.

At this level only 57 % of the Finns selected the opaque phrasal verbs that were Swedish-based, whereas 69 % of the Finns preferred the non-Swedish-based opaque phrasal verbs. It is of course hard to say if the lower percentage among the Swedish-based phrasal verbs was due to Swedish influence, but at least it could be assumed that those Finns who were majoring in English (i.e. level 4) should have a better command of Swedish than the Finns in the other levels. Therefore, the Finns at this level may have been more aware of crosslinguistic differences and similarities which possibly made them somewhat sceptical about choosing Swedish-based phrasal verbs.

Returning to the subtest containing Swedish-based opaque phrasal verbs (Fig. 17), a very distinct U-shaped pattern of acceptance of phrasal verbs could be noticed among Swedish learners. The curve was U-shaped also among the transparent Swedish-based phrasal verbs, but much less so (see Fig. 19).

Semantic properties and the effect on learnability

The third research question dealt with the possible effects the semantic properties of the phrasal and one-part verbs may have on learnability and transferability. As regards the properties of phrasal verbs, it has been found that they very often consist of verb elements which carry meanings which are universal and common to many different languages (idiom-prone verbs). Sometimes, however, the verb-particle combination occurring in this study formed a new and specific meaning that deviated considerably from the meanings of their individual parts (opaque or idiomatic phrasal verbs). In other combinations, the constituent parts of the phrasal verbs more or less retained their original meanings (transparent or non-idiomatic phrasal verbs). The one-part verbs could be characterized as having a broader and more general meaning than the phrasal verbs. As a rule they were also of foreign origin (Latin or French), whereas the phrasal verb is an Anglo-Saxon construction. The semantic and other properties of the phrasal and one-part verbs were established by the help of native and near-native informants.

Hypothesis eight was concerned with the differential effects of opaque and transparent phrasal verbs on learnability. The data (Fig. 18, p. 187), which strongly supported the hypothesis, showed that transparent phrasal verbs were, in terms of errors, much 'easier' than opaque phrasal verbs for both language groups. Hypothesis nine, which is related to the previous one, stated that

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learners from both language groups would tend to choose transparent phrasal verbs proportionately more often than opaque phrasal verbs. Hypothesis nine was also strongly supported by the data in the study (Table 20, p. 188). The Finns especially were very strongly inclined to choose transparent phrasal verbs, whereas they were found to under-use (or avoid) opaque phrasal verbs. How should the attractiveness of the transparent phrasal verbs be explained? It is argued here that the reason why they are chosen is that their meaning is universal and common to a wide range of other languages. Thus seven of the eight transparent phrasal verbs had 'literal' Swedish equivalents. Most of the transparent phrasal verbs in this study had a semantic frame similar to other languages, even to Finnish. Thus, for example, the English *go out* translates as *gå ut* in Swedish, *hinaugehen/geht hinaus* in German, and *lähtea (ulos)* in Finnish. It could of course be argued that the transparent phrasal verbs were chosen because the learners tried to avoid the equivalent one-part verbs. This interpretation is not very plausible, because according to the judgements of some expert informants, the one-part verb counterparts in this subtest were readily accessible since they all comprised frequent Anglo-Saxon verbs (see Table 22, p. 196).

Both language groups preferred Swedish-based phrasal verbs (Fig. 16) considerably more than non-Swedish-based phrasal verbs (Fig. 12) at all levels of proficiency except level 4. It has previously also been demonstrated that Finns preferred Swedish-based phrasal verbs even more than Swedes (Fig. 16). It was argued that it was the transparent, Swedish-based phrasal verbs that the Finns tended to over-use and not the Swedish-based phrasal verbs that were opaque. In fact, Hypothesis ten stated that Finns would tend to choose non-idiomatic (transparent) Swedish-based phrasal verbs more often than Swedes, especially in the early stages of learning. Hypothesis ten was strongly supported by the data in Figure 19. The diagram indicated that Finns and Swedes had adopted very different strategies of responding to the items with transparent phrasal verbs. In fact, Finns preferred the transparent phrasal verbs markedly more than Swedes at all levels. The curve successively decreased with increased proficiency of English. However, the decline is very steep at the initial stages but flattens out at the later stages. It is hypothesized that had the test been given to more proficient Finnish learners than those at level four, the curve would have turned to a rise. For Swedish learners, the pattern of responding to transparent phrasal verbs was U-shaped, but the U-form was not as marked as among the opaque, Swedish-based phrasal verbs.

How should the Finns' early inclination to 'over-use' transparent, Swedish-based phrasal verbs be explained? Could the pattern of the Finns somehow be related to the Finnish learners' limited prior linguistic experience of analytic constructions (like phrasal verbs) and analytic languages like English (and Swedish)? Finns must, from their synthetic Finnish reference frame, at an early stage perceive the abundant use of phrasal verb-like expressions in English and Swedish (and maybe in German), and it may therefore be tempting to over-use the phrasal verbs that are easily detected and easily comprehensible (i.e. the transparent ones). Swedes, on the other hand, who have a more differentiated knowledge of English phrasal verbs via Swedish, have adopted a somewhat more cautious attitude towards accepting English phrasal verbs with a too apparent similarity with Swedish.

Contributions to the development of SLA theory

The fourth of the research questions set up in this study was to assess the empirical results of this study against current SLA theories. As was mentioned in Chapter one, the purpose of a theory is *explanatory* in the sense that it should tell us why and under what conditions various identifiable processes and mechanisms inherent in SLA are likely to occur. Crookes (1992) maintains that SLA theories should contain two central concepts, *models* and *mechanisms*. In the following, the empirical results of this study will be interpreted with reference to current theories of second language acquisition and an attempt to identify the underlying models and mechanisms inherent in these theories will be made.

Viewed from a broader perspective, this study started out from two general models of second language acquisition. Firstly, the study examines the applicability of linguistically based competence models in second language acquisition. Secondly, processing models, which are concerned with the psychological and sociological reality underlying language use and language acquisition in real time are treated (see p. 9). In fact, it was argued that neither of these two models was adequate by itself, especially if the aim was a theoretical framework with the purpose to guide and shape the acquisition in a foreign language classroom setting. Instead, a model of language which is characterized as codes which are highly adapted to the institutions of the target language culture is adhered to. In these kinds of subject-matter languages are also included speech formulas, lexical phrases, idioms and the like (see Pawley 1994).

In this study, the focus is on one specific, idiom-like expression, phrasal verbs. More specifically, the study set out to look deeper into how learner data (Finns and Swedes) on English phrasal verbs might contribute to our understanding of the processes and mechanisms underlying second language acquisition. Furthermore, the study attempted to examine whether there are any correlates to the learner performances in this study in psychologically oriented processing models of second language acquisition.

As to the general effects of language distance on the second language learning process, the data of this study supported previous research. What the data showed very clearly was that L1-L2 distance had an affect on the speed of the second language acquisition process. Thus L1-L2 distance slowed down the speed (for Finns), whereas L1-L2 similarity had the reverse effect, i.e. that of speeding up second language acquisition (for Swedes). In fact, these results very much confirmed what has been found in previous studies (cf. Ringbom 1987; Odlin 1989). What the data also showed very clearly is that language distance factors have the strongest effects in the early stages of learning. Our data indicate that Finns, after having had some learning problems in the initial stages (level 1 and 2), constantly catch up with the Swedes and, in some respects, even surpass them at later stages of learning (level 4).

These data seem to suggest a model of second language acquisition that could be characterized as a process of frequent L1-L2 interaction in the early stages which in later stages gradually turns to a process of decreasing L1 reliance and an ever increasing interaction with L2 input (cf. Dechert 1989). Other supplementary explanations for the fact that Finns catch up with the Swedes could be offered, however. One possible explanation could be that Finns and Swedes have taken somewhat different attitudes as to how much effort they find it worth while putting into learning English. Finns will soon find out that English can be learnt only through hard work, whereas Swedes, because of the L1 similarity, may find it unnecessary to work too hard, "because they know English anyway"[26].

Another distinction pertaining to the assessment of the effects of language distance is that of *overt* and *covert* crosslinguistic influence. By overt L1 influence is meant a more or less 'literal' transference of recognizable L1 features or rules to be utilized in the L2 system. The occurrence of these kinds of structure-bound features of L1 in the target language system characterizes what has traditionally been termed positive and negative language transfer (cf. Gass 1979, 328). These types of transfer usually focus on specific details and not on the *cumulative effects* of cross-linguistic similarities and differences on the process of second language acquisition. An L1 influence of the latter kind is often of a more indirect kind and does not mirror the native language, but is rather to be seen as an extension of the native language pattern on a general level. This kind of covert L1 influence is often caused by the lack of reference frame in L1. Typical examples of covert L1 influence are L1-based avoidance and under-use of certain L2 structures not occurring in L1.

The data of this study will in the following be examined from the point of view of both overt and covert L1 influence. How are then overt and covert L1 influences related to L1-L2 *similarities*? Because the potential number of L1-L2 linkages must be larger among related languages, it is assumed that overt L1 influence is more common among Swedes than Finns (cf. Sjöholm 1986, 200). Therefore it was argued that Swedes would do better than Finns in items where the correct options (i.e. phrasal verbs) had a close lexico-semantic similarity with Swedish (cf. Hypothesis two, p. 110). Figure 10a (p. 162), where the errors were plotted down for comparison among items with Swedish-based alternatives, indicated that Swedes had an enormous advantage over Finns. The differences in the number of errors, which were most prominent in the early stages of learning, are believed to be a result of positive transfer due to overt L1-L2 similarity.

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[26] It has been alleged that the metalinguistic awareness of contrasts between linguistic systems is liable to be greater among bilinguals and second language learners in a classroom context than among monolinguals and second language learners in a natural setting. Likewise, this metalinguistic awareness may differentially affect what kind of language learning strategies that will be adopted by learners with different L1:s (cf. Vygotsky 1962, 109; Lambert & Tucker 1972, 207; Meisel 1983; 17).

Figure 10b showed, however, that Swedes performed considerably better than Finns also among items with correct options sharing no lexico-semantic features with Swedish. However, the differences in favour of Swedes had decreased considerably among these items (see Fig. 10c). These differences are also believed to be due to language similarities, however. The L1 influence is here of a more indirect kind (covert L1 influence) caused by the fact that a similar category of phrasal verbs does exist in Swedish (although not applicable in this case). The data referred to above suggest a model of second language acquisition which could be characterized in terms of a link schema. For Swedes, the model implies a direct or indirect linkage between some 'gestalts' in L1 and L2. Because of the absence of real or potential L1-L2 links, Finns are obliged to devise other kinds of strategies to cope with phrasal verbs. This, it is believed, often results in errors or the under-use of phrasal verbs among Finns.

As suggested earlier, covert L1 influence seems to be more compatible with language *differences*. The Finns' choice pattern of idiomatic phrasal verbs is an example of covert L1 influence induced by language difference. As shown in Figure 12, Finns selected non-Swedish-based, idiomatic phrasal verbs significantly less often than Swedes in the early stages of learning. It was believed that these differences were attributable primarily to structural causes, i.e. the absence of phrasal verbs in Finnish and the existence of this linguistic category in Swedish (cf. Dagut &

Laufer 1985). It is also argued that these differences are a result of avoidance of phrasal verbs among Finns. This interpretation is in accordance with previous research which has shown that L2 features which are lacking in the L1 system tend to be hard to learn (i.e. lead to errors) or tend to be avoided.

Thus it has been found that the omissions of the definite and indefinite article make up a considerable part of the errors made by Finnish learners of English, especially at the early stages (Palmberg 1977; Sajavaara 1983). Similarly, it has been found that Finns make considerably more errors with English prepositions than Swedes (Palmberg 1977). Neither articles nor prepositions exist as a linguistic category in Finnish. Ringbom (1987) found in a frequency study that Finns at the early and intermediate stages use fewer articles and prepositions than Swedes, which he interpreted as a clear case of covert crosslinguistic influence (Ringbom 1987, 108). A comparison between Finns and Swedes (see Figures 11 and 12) showed that Finns did prefer idiomatic phrasal verbs less often than Swedes.

As has been argued previously, the non-use of phrasal verbs among Finns may have resulted from ignorance, incomplete knowledge or from avoidance. True avoidance of a linguistic feature implies a choice between options (Kleinmann 1977). In other words, the learner should be able to demonstrate some knowledge of the avoided form. In comparison with Swedes, Finns could be said to be rather reluctant to choose idiomatic phrasal verbs in the early stages. It should be borne in mind, however, that native speakers of English preferred idiomatic phrasal verbs considerably more often than learners of both language groups in all the four stages of learning. Thus 83.3 % of the natives preferred phrasal verbs among the items in Figure 11, whereas the corresponding percentage for Figure 12 was 84.6 %. The fact that native speakers of English preferred idiomatic phrasal verbs 20 - 35 percentage points more often than Swedes indicates that factors other than perceived structural distance must play a role. These factors will be treated in some detail in the following where the effects of input are discussed.

Language input has commonly been regarded as a necessary condition for second language acquisition (see p. 22). The language input occurring in this study was impoverished in many respects (see. p. 88 ff.). The paucity of input (especially of natural input) was hypothesized to be detrimental to the acquisition of English phrasal verbs. The reasoning behind this was that in order to achieve a full understanding of many phrasal verbs, they have to be acquired in the socio-cultural and pragmatic context of the target language (especially the idiomatic phrasal verbs). A general finding was that phrasal verbs (especially idiomatic ones) were "avoided" or "under-used" by both language groups. Another interesting conclusion to be made was that the Finns who had been exposed to classroom input only, avoided and under-used phrasal verbs much more than the Swedes who had been exposed to the same kind of classroom input. This was true only if the phrasal verbs were 'neutral', i.e. non-Swedish-based. These differences between the two language groups have previously been attributed to language distance factors (Hypothesis three). That also Swedes tended to 'avoid' or 'under-use' phrasal verbs may be due to two factors. Firstly, phrasal verbs may be less attractive because they are very often semantically opaque and thus perceived as language-specific. Secondly, the equivalent one-part verbs constitute a more plausible choice to many learners because they have a broader and more general meaning.

Another issue taken up in this study is whether the acquisition of phrasal verbs is affected by increased classroom input. More explicitly, does more advanced classroom knowledge of English lead to a more native-like use of phrasal verbs among learners? In fact, the data clearly indicated that increased exposure to classroom input is related to a more native-like performance with phrasal verbs for both language groups. However, this tendency was most conspicuous among opaque, non-Swedish-based phrasal verbs (Table 13, p. 171; Fig. 14, p. 179). Increased exposure to classroom input did not, however, change the fact that the Swedes were more inclined than Finns to choose phrasal verbs.

It was also argued that a great amount of natural input (in addition to classroom input) would make the learners' performance with phrasal verbs approximate the native speakers' performance even more. In fact, the data showed that the performance with phrasal verbs was considerably more native-like in the natural input groups than in the classroom input groups. This was true of both Swedish and Finnish learners. An interesting finding was that both language groups were equally inclined to choose opaque, non-Swedish-based phrasal verbs in the natural input groups (see Fig. 14, p. 179). Thus it seems as if great exposure to natural input tends to even out the general advantages Swedes had over Finns when these learners had been exposed to classroom input only. A tentative conclusion would therefore be that the influence due to language distance factors tends to decrease among learners who have received a great amount of natural input. It is hypothesized, however, that the emergence of an independent target language system totally void of L1 interaction will probably never materialize in the area of idiomatic and conventionalized language use (pragmatics), unless the learners have been exposed to great amounts of natural input from an early age.

So far, the effects of different types of input on the acquisition of primarily *non-Swedish-based* phrasal verbs have been treated. Another important issue in this study was how the acquisition of *Swedish-based* phrasal verbs is affected by increased exposure to input among Swedish and Finnish learners. According to traditional contrastive analysis, Swedes ought to be more prone to choose Swedish-based phrasal verbs than Finns. The results in Figure 16 (p. 182) indicated, however, that the reverse was true, i.e. Finns tended to prefer Swedish-based phrasal verbs somewhat more than Swedes, especially in the intermediate stages. How is this to be explained? Some recent research has shown that the learnability or transferability of various target language aspects is a function of how far these aspects coincide with or diverge from the learners' expectations (cf. Ife 1990, 48). Kellerman argues that these expectations are largely determined by the *perceived* distance between L1, L2, L3 etc. (Kellerman 1979, 1983).

It is hypothesized that Finns no longer regard their native language as a plausible source to draw on at the stage of learning in this study. Therefore it is argued that the Finns make their hypotheses about the nature of English on the basis of comparisons within the target language or possibly on the basis of comparisons with other languages related to English (e.g. Swedish). It can therefore be assumed that Finns at this stage have noticed that the analytic construction phrasal verb is very common in English. This insight makes the Finns over-use phrasal verbs initially, especially the transparent ones which are easily comprehensible. The fact that the phrasal verbs additionally happen to be Swedish-based make them possibly even more attractive. In fact, the reasoning above was strongly supported by our data. Figure 19 (p. 191) indicated very clearly that Finns were considerably more inclined than Swedes to choose transparent Swedish-based phrasal verbs, especially in the early stages of learning. Comparing this with the pattern in Figure 17 (p. 184), which comprised opaque Swedish-based phrasal verbs, shows that the Finns' choices of Swedish-based phrasal verbs were dependent on whether they were perceived as semantically transparent or opaque. The evidence for this was found in the fact that the Swedish-based phrasal verbs that were opaque were preferred considerably more by Swedes than Finns at all four levels.

One of the most striking results in this study was, however, the Swedes' U-shaped acceptance of Swedish-based phrasal verbs. The U-shaped pattern was especially marked among the Swedish-based phrasal verbs that were opaque (Fig. 17, p. 184). By U-shaped pattern is here meant that Swedes in the initial phase (level 1) tend to accept Swedish-based phrasal verbs, and that their performance approaches that of native speakers of English. In the second phase (level 2 and especially level 3), Swedes seem to have lost confidence in Swedish-based phrasal verbs and their performance deviates considerably more than in the first phase from the target norm. Finally, in the third phase (level 4), Swedes once again accept the Swedish-based phrasal verbs and their performance becomes more congruent with that of the native speakers (cf. Karmiloff-Smith, p. 75).

How is this to be explained? It is believed that phrasal verbs in phase one are represented as unanalysed knowledge (i.e. holistically, cf. item-learning in Fig. 4, p. 76) in the mind of the Swedish learner. Being rather surface-oriented in their concerns initially, Swedes are probably to a great extent unaware of such semantic distinctions as opacity and transparency. Swedes therefore globally tend to accept Swedish-based phrasal verbs in the first phase. Swedish learners assume that Swedish and English, being relatively close in most respects, will share phrasal verbs as well. The mechanism in phase one could be characterized as one of mechanical accretion of knowledge, i.e. a compilation of new items of information without an attempt to change the overall organization of the system (cf. Fig. 4, p. 76).

The more proficient Swedish learners in phase two have become rather reluctant to accept Swedish-based phrasal verbs. These learners have been exposed to more formal instruction which is likely to have increased their metalinguistic sophistication. This, after having aroused the awareness of new semantic and pragmatic distinctions, has made Swedes more hesitant in an undifferentiated acceptance of Swedish-based phrasal verbs. In phase two, the performance of the Swedes is governed by internally-generated, top-down processes leading to a restructuring of the internal knowledge structures of phrasal verbs (cf. system learning in Fig. 4, p. 76).

In phase three, the organization-oriented procedures (restructuring) of phase two have become stabilized and the learner has achieved a near-native competence of English phrasal verbs. Needless to say, crosslinguistic influence is a very crucial factor in this interpretation of U-shaped behaviour.

Let us once more return to the strong preference for transparent phrasal verbs displayed by Finns (Fig. 19). It is argued here that a general mechanism not unlike the one that was believed to underlie the U-shaped performance among the Swedes may well account also for the successively declining curve among the Finns. Also the Finns are believed to be rather surface-oriented in the initial stage (level 1), but unlike the Swedes, their hypothesis will be that L1 (Finnish) does not serve as a good source of prediction of the use of English phrasal verbs. In fact, the Finn will early notice that verb meanings that are expressed by one-part verbs in Finnish are frequently expressed by various kinds of multi-word verbs (e.g. phrasal verbs) in English. Therefore Finns will tend to over-use phrasal verbs, which they have found to be typically English, especially if they are easily comprehensible (i.e. transparent). More proficient Finnish learners will, however, for very much the same reasons as Swedes, become increasingly suspicious about accepting them.

Finally, the effects of the semantic features of the phrasal verbs (and one-part verbs) will briefly be treated. Two trends could be discerned. Firstly, learners from both language groups made considerably more errors in items with opaque phrasal verbs than in those with transparent phrasal verbs. Secondly, the transparent phrasal verbs were significantly more preferred than the opaque phrasal verbs by learners from both language groups. Tables 21 (p. 190) and 22 (p. 196) indicate that these differences were not a result of the semantic properties of the one-part verbs. It is suggested here that the differences related above are caused by the semantic properties of the phrasal verbs.

It is argued here that the principles of prototypicality accounts for the learners' great preference for transparent phrasal verbs (cf. p, 50 ff). If the constituent parts in a phrasal verb represent prototypical instances of a set of form/meaning relations, then this verb-particle combination will be perceived as semantically transparent. Prototypical instances of lexical subsystems are those which in linguistic descriptions are least marked, most basic, or universal. The results in this study are congruent with previous research which has shown that prototypical meanings of a category are learnt earlier and more quickly than non-prototypical meanings (cf. Kellerman 1978; Hatch 1983; Gass 1988). It is argued here that the prototypical meanings of a lexical category are easily learnt, comprehended, and transferred, because they are perceived as the most typical and the most representative of that category. Therfore, "take off" in the context "take off the shoes", where both constituents represent prototypical instances of a lexical category, was considerably more frequently chosen by both language groups than "take off" in the context "the plane takes off" (see Tables 21a and b, p. 190).

Suggestions for further research

This study has treated the acquisition of a small, but in many ways an interesting part of the English language, i.e. phrasal verbs. The theoretical motivation for selecting phrasal verbs as an object of study was that they are structurally positioned somewhere between the traditional poles of lexicon and syntax. In fact, language is in this study viewed as a continuum of lexicalized, prefabricated, and completely frozen clusters (idioms) at one end and freely combining morphemes, or fully compositional and productive strings (i.e. syntax) at the other (see Fig. 3, p. 67). The prefabricated phrases and idioms seem to have a more central part in the overall language system than normally assumed, and they are today believed to play a role in the process of language acquisition by many researchers. In this study, the performance of Finnish and Swedish learners of English were compared in a test with phrasal verbs.

Finally some suggestions for future research will be made. In order to make theoretically valid statements, it is suggested that studies similar to the one with phrasal verbs must be carried out also with other types of fixed phrases. If the results emerging from acquisitional data with other types of fixed expressions turned out to be similar to the data with phrasal verbs, then the theoretical framework put forward in this study would rest on more solid ground. What is also worth more thorough scrutiny in the future is the question of whether the the kind of results obtained in this study can be generalized also to second language acquisition in a more natural setting. A comparative study between data elicited in a classroom and a more natural setting is therefore needed. The test used in this study elicited, roughly speaking, the learners' competence in idiomatic use of English phrasal verbs. The elicitation procedure was set up so as to reveal how the development of this competence was influenced by cross-linguistic, semantic, and input factors. However, the test instrument used in this study was not capable of discriminating between productive and receptive procedures in the second language acquisition process. An interesting future research project would therefore be to try to find out if, and how, the acquisition of productive and receptive skills in phrasal verbs differs. The most serious learning difficulties with phrasal verbs have been alleged to occur in production, whereas learners are believed to face fewer problems in comprehension (cf. Cornell 1985). On the other hand, the truth of the widely held view that we understand more than we can say cannot be taken for granted (cf. Haastrup 1991). A challenge for the future will also be to explore differences in native and non-native use of prefabricated patterns, e.g. phrasal verbs by the help of computerized learner corpora.

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Appendix 1

Instructions, questionnaire, and test

Questionnaire and *test* used in the study. This data collecting instrument was given to four main target groups, i.e. comparable Finnish- and Swedish-speaking *upper secondary school pupils* and *university students* in Finland. The questionnaire differed slightly for the upper secondary school pupils and university students. The questions were given in the subjects' mother tongues. The general written instructions were the same in all versions of the questionnaire.

Written instructions in Swedish.

Till Dig som fyller i detta formulär !

Denna undersökning har att göra med *hur* Du lär Dig språk (i detta fall engelska), m.a.o. är det inte Din språkfärdighet i engelska som testas. Undersökningen ingår i ett samprojekt mellan Engelska institutionen vid Åbo Akademi och Åbo Akademis pedagogiska fakultet i Vasa. Vi ber Dig delta i undersökningen genom att besvara frågorna i detta formulär. Formuläret består av en *enkätdel* i vilken vissa uppgifter om Dig efterfrågas och en *testdel*, d.v.s. ett engelskt flervalstest med fyra svarsalternativ. Det insamlade materialet kommer att utgöra grunden för en doktorsavhandling och vi hoppas därför att Du svarar på frågorna *så ärligt som möjligt*. Besvara frågorna i enkäten genom att *ringa in* den siffra som gäller Dig eller genom att *skriva ett kort svar* på den understreckade linjen. Det tar ca 20 minuter att fylla i hela formuläret.

Vasa den 24 april 1991

Kaj Sjöholm
fil.lic.

Håkan Ringbom
bitr. prof.

In the next page, the questionnaire intended for the *upper secondary school pupils* is given in its *Finnish* version.

Tiedoksi Sinulle, joka täytät tämän lomakkeen!

Tämä tutkimus käsittelee Sinun kielenoppimistapaasi (tällä kertaa englannin kielen oppimistapaasi). Emme siis testaa Sinun englannin kielen osaamistasi. Tutkimus on osa Åbo Akademin Englannin kielen laitoksen ja Vaasassa sijaitsevan Kasvatustieteiden tiedekunnan yhteistä projektia. Pyydämme Sinua osallistumaan tutkimukseen vastaamalla lomakkeessa esitettyihin kysymyksiin. Lomake koostuu *kyselyosasta*, jossa kysymme Sinua koskevia tietoja sekä *testiosasta*, joka on englannin kielen monivalintatesti, jossa on neljä vastausvaihtoehtoa. Tutkimuksesta saadut tiedot muodostavat perustan tohtorinväitöskirjalle, siksi toivomme Sinun vastaavan kysymyksiimme *mahdollisimman rehellisesti*. Vastaa kyselyosan kysymyksiin rengastamalla valitsemasi numerovaihtoehto tai kirjoita *lyhyt vastaus* viivalle. Lomakkeen täyttäminen kestää noin 20 minuuttia.

Vaasassa 24 huhtkuuta 1991

Kaj Sjöholm Fil. lis.	Håkan Ringbom apul. prof.

KYSELY

---

1. **Kouluni sijaitsee** .... läänissä

---

2. **Kouluni sijaitsee** 1 = maalaiskunnassa 2 = kaupungissa

---

3. **Sukupuoli** 1 = nainen 2 = mies **Ikä** ....vuotta

---

4. **Olen lukion** 1 2 3 luokalla

---

5. **Aloin lukea englantia persukoulun**
1 2 3 4 5 6 7 8 9 luokalla

---

6. **Lukuvuosi**, jolloin aloit lukea **muita kieliä** koulussa:

	Peruskoulu									**Lukio**			
Aloin lukea **ruotsia**	1	2	3	4	5	6	7	8	9	1	2	3	luokalla
saksaa	1	2	3	4	5	6	7	8	9	1	2	3	luokalla
ranskaa	1	2	3	4	5	6	7	8	9	1	2	3	luokalla
venäjää	1	2	3	4	5	6	7	8	9	1	2	3	luokalla
muuta	1	2	3	4	5	6	7	8	9	1	2	3	luokalla

---

7. Oletko oleskellut **enlanninkielisissä maissa** ? 1 = Ei 2 = Kyllä
Mikäli vastasit kyllä **Kuinka kauan** yhteensä? ....vuotta ....kuukautta

---

8. **Muut kontaktini** englanninkielisiin ihmisiin (Esim. "tiviitä" kontakteja englanninkielisiin ystäviin tai tuttuihin,, enlanninkielen keskustelukursseja, -ryhmiä tms.) ovat käsitykseni mukaan:

1 = Hyvin runsaat 2 = Runsaat 3 = Keskinkertaiset 4 = Vähäiset 5 = Kovin vähäiset

---

9. Kontaktini **kirjoitettuun englannin kielen** oppkirjojen ohella (esim. kirjeenvaihtoystävä, enlanninkielisen kirjojen lukeminen yms.) ovat arvioni mukaan:

1 = Hyvin runsaat 2 = Runsaat 3 = Keskinkertaiset 4 = Vähäiset 5 = Kovin vähäiset

---

10. **Englannin kielen arvosanani** viimeisimmässä kouluntodistuksessa on
4 5 6 7 8 9 10

The questionnaire intended for the *university students* is given below in its *Swedish* version.

ENKÄT

---

1. **Högskola där jag studerar:** ....

---

2. **Fakultet:** ....

---

3. **Kön:** 1 = kvinna 2 = man **Ålder:** .... år

---

4. **Modersmål:** ....

---

5. **Årskurs** då jag började läsa **engelska** i skolan:
Årskurser i grundskolan: 1 2 3 4 5 6 7 8 9

---

6. Studerat **vid högskola hur länge** ? .... **år (detta år inkluderat)**

---

7. Studerat **engelska vid högskola** ? 1 = Nej 2 = Ja

Om ja **Hur länge** ? .... år .... mån.

---

8. Har vistats i **engelskspråkigt** land ? 1 = Nej 2 = Ja

Om ja **Hur länge** sammanlagt ? .... år .... mån.

---

9. Mina **övriga direkta kontakter** (utöver studierna) med **engelskspråkiga** (T.ex. "täta" kontakter med engelskspråkiga vänner eller bekanta, engelska konversationskurser el. grupper o.dyl.) är enligt min egen uppfattning:

1 = Mycket omfattande	2 = Ganska omfattande	3 = Medelmåttiga	4 = Ganska sparsamma	5 = Ytterst minimala

---

10. Mina **kontakter** med **engelska språket** via **skrivet språk** (t.ex. genom brevkorrespondens, läsning av skön- eller annan litteratur, kurslitteratur) är enligt min egen uppfattning:

1 = Mycket omfattande	2 = Ganska omfattande	3 = Medelmåttiga	4 = Ganska sparsamma	5 = Ytterst minimala

---

11. Har studerat följande **övriga språk vid högskola**.

Språk	Hur länge ?
1.	.... år
2.	.... år
3.	.... år

---

12. Mitt **vitsord i engelska** på gymnasiets dimissionsbetyg:
Vitsord: 4 5 6 7 8 9 10
(Om du inte minns, ange ungefär !)

The same *multiple-choice test* was used for all target groups in the study. The test is presented in the next page (with Swedish instructions).

TEST

Välj, för varje uppgift, det uttryck som enligt din mening bäst passar in i sammanhanget genom att *ringa in siffran* framför uttrycket. Anta att språket i de olika uppgifterna är skrivet på normal, vardaglig engelska. Välj endast **ett** alternativ för varje uppgift !

1. They had to ________ their wedding for six weeks after their skiing accident.

1) move up
2) push
3) postpone
4) put off

2. The plane ______ despite the fog.

1) lifted up
2) took off
3) lightened
4) departed

3. He only _______ to get some cigarettes and we didn't see him again for fifteen years !

1) left
2) parted
3) went out
4) left out

4. "You don't want to ________ to the first shop already, do you ? There are three more we haven't tried."

1) return
2) retire
3) turn over
4) go back

5. The dentist had to _______ one of his front teeth.

1) take out
2) unscrew
3) remove
4) wind out

6. It got colder immediately after the sun had ______.

1) gone down
2) set
3) sunk down
4) lowered

7. The six Irishmen were boarding a train when the bomb _______ and they were arrested at the next station.

1) burnt off
2) went off
3) erupted
4) exploded

8. "You have to take your medicine now" said Mrs Hunt to her daughter. "You can _________ playing with your Barbie-dolls afterwards.

1) continue
2) prolong
3) set on
4) go on

9. When World War II _________ she was still working in the chocolate factory.

1) broke out
2) started
3) initiated
4) opened up

10. He never ________ the shock of losing Jane.

1) overcame
2) got over
3) left out
4) defeated

11. He took the exam last week. He wasn't expected to ________ , but he ended up with quite a good mark.

1) pass
2) get through
3) come true
4) proceed

12. The policeman _______ the bar and everybody suddenly stopped talking.

1) inserted
2) came into
3) closed up
4) entered

13. I had to ________ early this morning to catch the train.

1) erect
2) rise
3) get up
4) stand up

14. You can't _______ your friends, you have to come to the party as you promised.

1) dismiss
2) get around
3) let down
4) disappoint

15. "_______your shoes before you come in here - I've just washed the floor!"

1) undress
2) remove
3) dress off
4) take off

16. You really must _______ your English, it's so rusty.

1) better up
2) enlarge
3) improve
4) brush up

17. " _______ your hand if you had porridge for breakfast"!

1) rise
2) raise
3) put out
4) put up

18. Most people find it incredibly difficult to _________ smoking.

1) close out
2) eliminate
3) stop
4) give up

19. Mr Parkinson had to _______ a story about a traffic jam as an explanation of his late arrival.

1) hit upon
2) pretend
3) invent
4) make up

20. Margaret Thatcher was forced to _______ to her critics and withdraw from the leadership race.

1) give after
2) give in
3) surround
4) surrender

21. You're going to have to ___________ the noise for two more days, I'm afraid.

1) tolerate
2) put up with
3) stand out with
4) outstand

22. He never _______ Mary. She stayed in his memory for ever.

1) got over
2) came across
3) survived
4) forgot

23. He had to _______ two very interesting business offers, as otherwise he would have missed the last plane home.

1) avoid
2) strike off
3) refuse
4) turn down

24. Wives sometimes _______ the pockets of their husbands.

1) seek
2) turn up
3) go through
4) search

25. I hadn't heard from my father for twenty years, but to my surprise he __________ a week after I'd won the lotto.

1) turned up
2) sprang up
3) appeared
4) occurred

26. The dog ______ the postman as soon as he opened the garden gate.

1) invaded
2) attacked
3) sprang after
4) went for

27. As a boy he liked to _______ his parents, but later in life he thought himself very silly.

1) go against
2) oppose
3) quarrel
d) stand towards

28. Mr Peters' firm will ________ unless business gets better.

1) collapse
2) destroy
3) fall over
4) go under

Appendix 2

Native speakers' preferences for phrasal verbs in 28 test items.

N = 15

Item	Phrasal verb	One-part verb	Phrasal verb preferred
1	put off	postpone	56,7 %
2	take off	depart	93,3 %
3	go out	leave	93,3 %
4	go back	return	80,0 %
5	take out	remove	60,0 %
6	go down	set	70,0 %
7	go off	explode	83,3 %
8	go on	continue	96,7 %
9	break out	start	100,0 %
10	get over	overcome	100,0 %
11	get through	pass	23,3 %
12	come into	enter	73,3 %
13	get up	rise	93,3 %
14	let down	disappoint	66,7 %
15	take off	remove	83,3 %
16	brush up	improve	86,7 %
17	put up	raise	63,3 %
18	give up	stop	73,3 %
19	make up	invent	83,3 %
20	give in	surrender	83,3 %
21	put up with	tolerate	93,3 %
22	get over	forget	43,3 %
23	turn down	refuse	100,0 %
24	go through	search	86,7 %
25	turn up	appear	83,3 %
26	go for	attack	73,3 %
27	go against	oppose	70,0 %
28	go under	collapse	70,0 %
		Mean	**78,0 %**

Appendix 3

Two native speakers' assessment of phrasal verbs on a scale of semantic transparency-opacity and one-part verbs on a scale of central-peripheral meaning.

O = semantically opaque
T = semantically transparent
O(T) = moderately semantically opaque
T(O) = moderately semantically transparent

P = peripheral meaning
C = central meaning
P(C) = moderately peripheral meaning
C(P) = moderately central meaning

Item	Phrasal verb	Nat. 1	Nat. 2	Interpret.	One-part verb	Nat. 1	Nat. 2	Interpret.
1	put off	O	O	O	postpone	C	C	C
2	take off	O	O	O	depart	C	C	C
3	go out	T	T	T	leave	C	C	C
4	go back	T	T	T	return	C	C	C
5	take out	T	T	T	remove	C	C	C
6	go down	T	T	T	set	P	P	P
7	go off	O	O	O	explode	C	P(C)	C
8	go on	O	O	O	continue	C	C	C
9	break out	O	O	O	start	C	C	C
10	get over	O	O	O	overcome	C	P(C)	C
11	get through	O	T(O)	O	pass	P	C(P)	P
12	come into	T	T	T	enter	C	C	C
13	get up	O(T)	T	T	rise	C(P)	P	P
14	let down	O	O	O	disappoint	C	P(C)	C
15	take off	T	T	T	remove	C	C	C
16	brush up	O	O	O	improve	C	C	C
17	put up	T	T	T	raise	P(C)	C	C
18	give up	O	O	O	stop	P(C)	C	C
19	make up	O	O	O	invent	C	C	C
20	give in	O	O	O	surrender	P	P	P
21	put up with	O	O	O	tolerate	C	C	C
22	get over	O	O	O	forget	C	C	C
23	turn down	O	O	O	refuse	C	C	C
24	go through	O	O	O	search	C	P(C)	C
25	turn up	O	O	O	appear	C	C	C
26	go for	O	O	O	attack	C	C	C
27	go against	O	T(O)	O	oppose	C	C	C
28	go under	O	O	O	collapse	P	P	P
	Total	O = 71,4 %		T = 28,6 %		C = 82,1 %		P = 17,9

Appendix 4

Assessment of "foreignness" and frequency of *one-part verbs* by four near-native speakers of English

Betrakta verben nedan. Vilka anser du definitivt vara av **utländskt ursprung** (latinskt, franskt), vilka är av **anglosaxiskt** ursprung ? En tredje grupp är måhända utländska, men är så frekventa och så assimilerade med engelskan att de uppfattas som engelska.

Markera verben som **utländska** eller **anglosaxiska** enligt föjande:

1 = Utländskt (latinskt, franskt) ursprung (ej assimilerade)
2 = Utländskt (latinskt, franskt) ursprung (rätt assimilerade)
3 = Anglosaxiskt ursprung
4 = Svåra att kategorisera (motivera)

Betrakta verben också med avseende på hur vanliga (frekventa) de är i gängse engelskt språkbruk (talat och skrivet vardagsspråk). Markera verben enligt hur vanliga (frekventa) du subjektivt (intuitivt) upplever dem i skalan 1, 2 och 3 nedan. Sträva efter att använda hela skalan

1 = Sällan förekommande
2 = Då och då förekommande
3 = Ofta förekommande

		Utl./anglos.	Frekvens
1	postpone	________	________
2	depart	________	________
3	leave	________	________
4	return	________	________
5	remove	________	________
6	set	________	________
7	explode	________	________
8	continue	________	________
9	start	________	________
10	overcome	________	________
11	pass	________	________
12	enter	________	________
13	rise	________	________
14	disappoint	________	________
15	remove	________	________

16 improve ________ ________
17 raise ________ ________
18 stop ________ ________
19 invent ________ ________
20 surrender ________ ________
21 tolerate ________ ________
22 forget ________ ________
23 refuse ________ ________
24 search ________ ________
25 appear ________ ________
26 attack ________ ________
27 oppose ________ ________
28 collapse ________ ________

On the basis of the assessment of the one-part verbs, three subtests emerged.

Subtest T (transparent phrasal verbs, native-like one-part verbs).

8 items (leave, return, remove, set, enter, rise, remove, raise).
Characteristics of one-part verbs.
Foreignness: Mean score 2.5 Anglo-Saxon (or assimilated)
Frequency: Mean score 2.45 Frequent

Subtest O nat (opaque phrasal verbs, native-like one-part verbs)

6 items (start, overcome, stop, search, appear, attack)
Characteristics of one-part verbs.
Foreignness: Mean score 2.63 Anglo-Saxon (or assimilated)
Frequency: Mean score 2.48 Frequent

Subtest O for (opaque phrasal verbs, foreign one-part verbs)

12 items (postpone, depart, explode, continue, disappoint, improve, invent, surrender, tolerate, refuse, oppose, collapse)
Characteristics of one-part verbs.
Foreignness: Mean score 1.60 Foreign
Frequency: Mean score 1.64 Infrequent

Appendix 5

Distribution of responses in test with phrasal verbs (28 items), p values (narrow & broad scoring), and errors.

(1) = first-priority, correct; (2) = second-priority, correct; (e) = error

Level 1 (Swedes) N = **272**

		Code	**N**	**%**	**Phras/nonphr**	**Scoring**	**Error**
one-part	(1)	1	466	6,12	**(proportion)**	narrow	(854)
phrasal	(1)	2	3517	46,18	**52,93 %**	(3983)	**11,21 %**
one-part	(2)	3	2717	35,67	**47,07 %**	52,30 %	
phrasal	(2)	4	62	0,81		broad	
one-part	(e)	5	292	3,83		(6762)	
"phrasal"	(e)	6	504	6,62		**88,79 %**	
missing	(e)	7	58	0,76			
	Total		7616				

Level 2 (Swedes) N = **224**

		Code	**N**	**%**	**Phras/nonphr**	**Scoring**	**Error**
one-part	(1)	1	404	6,44	**(proportion)**	narrow	(529)
phrasal	(1)	2	2848	45,41	**50,27 %**	(3252)	**8,43 %**
one-part	(2)	3	2452	39,09	**49,73 %**	51,85 %	
phrasal	(2)	4	39	0,62		broad	
one-part	(e)	5	147	2,34		(5743)	
"phrasal"	(e)	6	366	5,84		**91,57 %**	
missing	(e)	7	16	0,26			
	Total		6272				

Level 3 (Swedes) N = **84**

		Code	**N**	**%**	**Phras/nonphr**	**Scoring**	**Error**
one-part	(1)	1	142	6,04	**(proportion)**	narrow	(174)
phrasal	(1)	2	1062	45,15	**49,86 %**	(1204)	**7,40 %**
one-part	(2)	3	950	40,39	**50,14 %**	51,19 %	
phrasal	(2)	4	24	1,02		broad	
one-part	(e)	5	70	2,98		(2178)	
"phrasal"	(e)	6	97	4,12		**92,60 %**	
missing	(e)	7	7	0,30			
	Total		2352				

Level 4 (Swedes) **N =28**

		Code	**N**	**%**	**Phras/nonphr**	**Scoring**	**Error**
one-part	(1)	1	45	5,74	**(proportion)**	narrow	(9)
phrasal	(1)	2	439	55,99	**57.94 %**	(483)	**1,15 %**
one-part	(2)	3	280	35,71	**42,06%**	61,61 %	
phrasal	(2)	4	11	1,40		broad	
one-part	(e)	5	3	0,38		(775)	
"phrasal"	(e)	6	5	0,64		**98,85 %**	
missing	(e)	7	1	0,13			
		Total	784				

Level 1 (Finns) **N = 294**

		Code	**N**	**%**	**Phras/nonphr**	**Scoring**	**Error**
one-part	(1)	1	474	5,76	**(proportion)**	narrow	(1904)
phrasal	(1)	2	3077	37,38	**49,72 %**	(3551)	**23,13 %**
one-part	(2)	3	2708	32,90	**50,28 %**	43,14 %	
phrasal	(2)	4	69	0,84		broad	
one-part	(e)	5	648	7,87		(6328)	
"phrasal"	(e)	6	1183	14,37		**76,87 %**	
missing	(e)	7	73	0,89			
		Total	8232				

Level 2 (Finns) **N = 212**

		Code	**N**	**%**	**Phras/nonphr**	**Scoring**	**Error**
one-part	(1)	1	336	5,66	**(proportion)**	narrow	(1208)
phrasal	(1)	2	2239	37,72	**48,65 %**	(2575)	**20,35 %**
one-part	(2)	3	2092	35,24	**51,35 %**	43,38 %	
phrasal	(2)	4	61	1,03		broad	
one-part	(e)	5	474	7,99		(4728)	
"phrasal"	(e)	6	703	11,84		**79,65 %**	
missing	(e)	7	31	0,52			
		Total	5936				

Level 3 (Finns) N = 93

		Code	N	%	Phras/nonphr	Scoring	Error
one-part	(1)	1	140	5,38	(proportion)	narrow	(327)
phrasal	(1)	2	1113	42,74	**50,77 %**	(1253)	**12,56 %**
one-part	(2)	3	981	37,67	**49,23 %**	48,12 %	
phrasal	(2)	4	43	1,65		broad	
one-part	(e)	5	96	3,69		(2277)	
"phrasal"	(e)	6	212	8,14		**87,44 %**	
missing	(e)	7	19	0,73			
		Total	2604				

Level 4 (Finns) N = 39

		Code	N	%	Phras/nonphr	Scoring	Error
one-part	(1)	1	64	5,86	(proportion)	narrow	(33)
phrasal	(1)	2	645	59,07	**62.23 %**	(709)	**3,02%**
one-part	(2)	3	336	30,77	**37.77%**	64,93 %	
phrasal	(2)	4	14	1,28		broad	
one-part	(e)	5	7	0,64		(1059)	
"phrasal"	(e)	6	25	2,30		**96,98%**	
missing	(e)	7	1	0,09			
		Total	1092				

Appendix 6

Subtest OS- ; Distribution of responses in subtest with items containing opaque (correct) phrasal verbs (13 items) among learners and native speakers.

(2) = phrasal, first-priority, correct
(3) = one-part, second-priority, correct
(5) = one-part, incorrect
(6) = "phrasal", incorrect
(7) = missing value

Level 1 (Swedes) N = 272

	Item 1 put off (postpone)		Item 2 take off (depart)		Item 7 go off (explode)		Item 8 go on (continue)	
Code	N	%	N	%	N	%	N	%
(2)	60	22,06	195	71,69	27	9,93	164	60,29
(3)	63	23,16	31	11,40	232	85,29	107	39,34
(5)	28	10,29	14	5,15	9	3,31		
(6)	119	43,75	30	11,03	3	1,10		
(7)	2	0,74	2	0,74	1	0,37	1	0,37

	Item 10 get over (overcome)		Item 14 let down (disappoint)		Item 16 brush up (improve)		Item 19 make up (invent)	
Code	N	%	N	%	N	%	N	%
(2)	219	80,51	65	23,90	19	6,99	228	83,82
(3)	38	13,97	192	70,59	208	76,47	20	7,35
(5)	12	4,41	9	3,31	4	1,47	17	6,25
(6)	2	0,74	4	1,47	39	14,34	5	1,84
(7)	1	0,37	2	0,74	2	0.74	2	0,74

	Item 20 give in (surrender)		Item 21 put up with (tolerate)		Item 23 turn down (refuse)		Item 25 turn up (appear)	
Code	N	%	N	%	N	%	N	%
(2)	69	25,37	108	39,71	136	50,0	137	50,37
(3)	84	30,88	77	28,31	67	24,63	126	46,32
(5)	20	7,35	7	2,57	52	19,12	2	0,74
(6)	94	34,56	77	28,31	13	4,78	4	1,47
(7)	5	1,84	3	1,10	4	1,47	3	1,10

Code	**Item 26** go for (attack) N	%	**Whole subtest** N	%
(2)	12	4,41	1439	40,70
(3)	252	92,65	1497	42,34
(5)	1	0,37	175	4,95
(6)	4	1,47	394	11,14
(7)	3	1,10	31	0,88

Proportion of (correct) phrasal/ nonphrasal responses

	Swedes Level 1	Native speakers of English
Phras	**49,01**	**83,01**
Nonphr	**50,99**	**16,99**

Errors (total)

N	%
600	**16,97**

Level 2 (Swedes) N = 224

Code	**Item 1** put off (postpone) N	%	**Item 2** take off (depart) N	%	**Item 7** go off (explode) N	%	**Item 8** go on (continue) N	%
(2)	73	32,59	173	77,23	18	8,04	128	57,14
(3)	68	30,36	20	8,93	203	90.62	96	42,86
(5)	18	8,04	3	1,34	1	0,45		
(6)	64	28,57	27	12,05	2	0,89		
(7)	1	0,45	1	0,45				

Code	**Item 10** get over (overcome) N	%	**Item 14** let down (disappoint) N	%	**Item 16** brush up (improve) N	%	**Item 19** make up (invent) N	%
(2)	172	76,79	73	32,59	19	8,48	195	87,05
(3)	50	22,32	145	64,73	163	72,77	20	8,93
(5)	2	0,89	4	1,79	4	1,79	7	3,12
(6)			2	0,89	36	16,07	1	0,45
(7)					2	0.86	1	0,45

Code	**Item 20** give in (surrender) N	%	**Item 21** put up with (tolerate) N	%	**Item 23** turn down (refuse) N	%	**Item 25** turn up (appear) N	%
(2)	68	30,36	93	41,52	131	58,48	92	41,07
(3)	71	31,70	56	25.00	54	24,11	130	58,04
(5)	15	6,70	5	2,23	18	8,04	1	0,45
(6)	68	30,36	70	31,25	21	9,38	1	0,45
(7)	2	0,89						

	Item 26		**Whole**	
	go for		**subtest**	
	(attack)			
Code	N	%	N	%
(2)	6	2,68	1241	42,62
(3)	215	95,98	1291	44,33
(5)			78	2,68
(6)	3	1,34	295	10,13
(7)			7	0,24

Proportion of (correct) phrasal/ nonphrasal responses

	Swedes Level 2	Native speakers of English
Phras	**49,01**	**83,01**
Nonphr	**50,99**	**16,99**

Errors (total)

N	%
380	**13,05**

Level 3 (Swedes) N = 84

	Item 1		**Item 2**		**Item 7**		**Item 8**	
	put off		take off		go off		go on	
	(postpone)		(depart)		(explode)		(continue)	
Code	N	%	N	%	N	%	N	%
(2)	18	21,43	62	73,81	6	7,14	50	59,52
(3)	34	40,48	17	20,24	73	86,90	34	40,48
(5)	12	14,29			4	4,76		
(6)	18	21,43	4	4,76	1	1,19		
(7)	2	2,38	1	1,19				

	Item 10		**Item 14**		**Item 16**		**Item 19**	
	get over		let down		brush up		make up	
	(overcome)		(disappoint)		(improve)		(invent)	
Code	N	%	N	%	N	%	N	%
(2)	59	70,24	25	29,76	20	23,81	71	84,52
(3)	21	25,00	56	66,67	55	65,48	9	10,71
(5)	4	4,76	3	3,57	1	1,19	4	4,76
(6)					8	9,52		
(7)								

	Item 20		**Item 21**		**Item 23**		**Item 25**	
	give in		put up with		turn down		turn up	
	(surrender)		(tolerate)		(refuse)		(appear)	
Code	N	%	N	%	N	%	N	%
(2)	34	40,48	36	42,86	54	64,29	54	64,29
(3)	29	34,52	28	33,33	24	28,57	29	34,52
(5)	3	3,57	3	3,57	3	3,57	1	1,19
(6)	17	20,24	17	20,24	3	3,57		
(7)	1	1,19						

Code	Item 26 go for (attack) N	%	Whole subtest N	%
(2)	3	3,57	492	45,05
(3)	81	96,43	490	44,87
(5)			38	3,48
(6)			68	6,23
(7)			4	0,37

Proportion of (correct) phrasal/nonphrasal responses

	Swedes Level 3	Native speakers of English
Phras	**50,10**	**83,01**
Nonphr	**49,90**	**16,99**

Errors (total)

N	%
110	**10,07**

Level 4 (Swedes) N = 28

Code	Item 1 put off (postpone) N	%	Item 2 take off (depart) N	%	Item 7 go off (explode) N	%	Item 8 go on (continue) N	%
(2)	10	35,71	20	71,43	8	28,57	23	82,14
(3)	16	57,14	8	28,57	20	71,43	5	17,86
(5)								
(6)	2	7,14						
(7)								

Code	Item 10 get over (overcome) N	%	Item 14 let down (disappoint) N	%	Item 16 brush up (improve) N	%	Item 19 make up (invent) N	%
(2)	24	85,71	9	32,14	7	25,00	25	89,29
(3)	4	14,29	19	67,86	21	75,00	3	10,71
(5)								
(6)								
(7)								

Code	Item 20 give in (surrender) N	%	Item 21 put up with (tolerate) N	%	Item 23 turn down (refuse) N	%	Item 25 turn up (appear) N	%
(2)	16	57,14	25	89,29	27	96,43	23	82,14
(3)	12	42,86	2	7,14	1	3,57	5	17,86
(5)			1	3,57				
(6)								
(7)								

	Item 26 go for (attack)		**Whole** **subtest**	
Code	N	%	N	%
(2)	4	14,29	221	60,71
(3)	24	85,71	140	38,46
(5)			1	0,29
(6)			2	0,35
(7)				

Proportion of (correct) phrasal/ nonphrasal responses

	Swedes Level 4	Native speakers of English
Phras	**61,22**	**83,01**
Nonphr	**38,46**	**16,99**

Errors (total)

N	%
3	**0,82**

Level 1 (Finns) **N = 294**

	Item 1 put off (postpone)		**Item 2** take off (depart)		**Item 7** go off (explode)		**Item 8** go on (continue)	
Code	N	%	N	%	N	%	N	%
(2)	36	12,24	171	58,16	36	12,24	117	39,80
(3)	52	17,69	37	12,59	208	70,75	168	57,14
(5)	45	15,31	24	8,16	18	6,12		
(6)	159	54,08	60	20,41	29	9,86	7	2,38
(7)	2	0,68	2	0,68	3	1,02	2	0,68

	Item 10 get over (overcome)		**Item 14** let down (disappoint)		**Item 16** brush up (improve)		**Item 19** make up (invent)	
Code	N	%	N	%	N	%	N	%
(2)	192	65,31	67	22,79	27	9,18	170	57,82
(3)	45	15,31	191	64,97	161	54,76	61	20,75
(5)	34	11,56	27	9,18	14	4,76	47	15,99
(6)	21	7,14	6	2,04	89	30,27	13	4,42
(7)	2	0.68	3	1.02	3	1.02	3	1,02

	Item 20 give in (surrender)		**Item 21** put up with (tolerate)		**Item 23** turn down (refuse)		**Item 25** turn up (appear)	
Code	N	%	N	%	N	%	N	%
(2)	98	33,33	74	25,17	70	23,81	72	24,49
(3)	74	25,17	48	16,33	140	47,62	177	60,20
(5)	57	19,39	46	15,65	50	17,01	21	7,14
(6)	61	20,75	122	41,50	32	10,88	21	7,14
(7)	4	1,36	4	1,36	2	0,68	3	1,02

Code	Item 26 go for (attack) N	%	Whole subtest N	%
(2)	18	6,12	1148	30,04
(3)	219	74,49	1581	41,37
(5)	10	3,40	393	10,28
(6)	45	15,31	665	17,40
(7)	2	0,68	35	0,92

Proportion of (correct) phrasal/ nonphrasal responses

	Finns Level 1	Native speakers of English
Phras	**42,07**	**83,01**
Nonphr	**57,93**	**16,99**

Errors (total)

N	%
1093	**28,60**

Level 2 (Finns) N = 212

Code	Item 1 put off (postpone) N	%	Item 2 take off (depart) N	%	Item 7 go off (explode) N	%	Item 8 go on (continue) N	%
(2)	54	25,47	125	58,96	13	6,13	91	42,92
(3)	27	12,74	15	7,08	178	83,96	115	54,25
(5)	32	15,09	19	8,96	11	5,19	4	1,89
(6)	97	45,75	50	23,58	10	4,72	2	0,94
(7	2	0,94	3	1,42				

Code	Item 10 get over (overcome) N	%	Item 14 let down (disappoint) N	%	Item 16 brush up (improve) N	%	Item 19 make up (invent) N	%
(2)	139	65,57	75	35,38	13	6,13	119	56,13
(3)	36	16,98	117	55,19	135	63,68	59	27,83
(5)	21	9,91	14	6,60	15	7,08	28	13,21
(6)	15	7,08	5	2,36	49	23,11	5	2,36
(7)	1	0.47	1	0,47			1	0,47

Code	Item 20 give in (surrender) N	%	Item 21 put up with (tolerate) N	%	Item 23 turn down (refuse) N	%	Item 25 turn up (appear) N	%
(2)	66	31,13	49	23,11	63	29,72	51	24,06
(3)	61	28,77	50	23,58	106	50,00	143	67,45
(5)	47	22,17	26	12,26	32	15,09	5	2,36
(6)	36	16,98	84	39,62	9	4,25	11	5,19
(7)	2	0,94	2	1,42	2	0,94	2	0,94

	Item 26 go for (attack)		**Whole** **subtest**		**Proportion of (correct) phrasal/** **nonphrasal responses**		
						Finns	Native speakers
Code	N	%	N	%		Level 2	of English
(2)	12	5,66	870	31,57	Phras	**41,73**	**83,01**
(3)	173	81,60	1215	44,09	Nonphr	**58,27**	**16,99**
(5)	5	2,36	259	9,40	**Errors (total)**		
(6)	20	9,43	393	14,26	N	%	
(7)	2	0,94	12	0,69	664	**24,09**	

Level 3 (Finns) **N = 93**

	Item 1 put off (postpone)		**Item 2** take off (depart)		**Item 7** go off (explode)		**Item 8** go on (continue)	
Code	N	%	N	%	N	%	N	%
(2)	17	18,28	57	61,29	6	6,45	46	49,46
(3)	37	39,78	24	25,81	85	91,40	47	50,54
(5)	7	7,53						
(6)	31	33,33	11	11,83	1	1,08		
(7)	1	1,08	1	1,08	1	1,08		

	Item 10 get over (overcome)		**Item 14** let down (disappoint)		**Item 16** brush up (improve)		**Item 19** make up (invent)	
Code	N	%	N	%	N	%	N	%
(2)	63	67,74	42	45,16	14	15,05	68	73,12
(3)	24	25,81	45	48,39	68	73,12	19	20,43
(5)	3	3,23	6	6,45			4	4,30
(6)	3	3,23			9	9,68		
(7					2	2,15	2	2,15

	Item 20 give in (surrender)		**Item 21** put up with (tolerate)		**Item 23** turn down (refuse)		**Item 25** turn up (appear)	
Code	N	%	N	%	N	%	N	%
(2)	37	39,78	33	35,48	44	47,31	38	40,86
(3)	31	33,33	35	37,63	32	34,41	45	48,39
(5)	10	10,75	3	3,23	10	10,75	3	3,23
(6)	13	13,98	21	22,58	6	6,45	5	5,38
(7)	2	2,15	1	1,08	1	1,08	2	2,15

	Item 26 go for (attack)		**Whole subtest**	
Code	N	%	N	%
(2)	6	6,45	471	38,96
(3)	81	87,10	573	47,39
(5)			46	3,80
(6)	5	5,38	105	8,68
(7)	1	1,08	14	1,16

Proportion of (correct) phrasal/ nonphrasal responses

	Finns Level 3	Native speakers of English
Phras	**45,11**	**83,01**
Nonphr	**54,89**	**16,99**

Errors (total)

N	%
165	**13,65**

Level 4 (Finns) N = 39

	Item 1 put off (postpone)		**Item 2** take off (depart)		**Item 7** go off (explode)		**Item 8** go on (continue)	
Code	N	%	N	%	N	%	N	%
(2)	18	46,15	34	87,18	18	46,15	30	76,92
(3)	19	48,72	5	12,82	21	53,85	9	23,08
(5)	1	2,56						
(6)								
(7)	1	2,56						

	Item 10 get over (overcome)		**Item 14** let down (disappoint)		**Item 16** brush up (improve)		**Item 19** make up (invent)	
Code	N	%	N	%	N	%	N	%
(2)	31	79,49	25	64,10	21	53,85	35	89,74
(3)	8	20,51	14	35,90	18	46,15	4	10,26
(5)								
(6)								
(7)								

	Item 20 give in (surrender)		**Item 21** put up with (tolerate)		**Item 23** turn down (refuse)		**Item 25** turn up (appear)	
Code	N	%	N	%	N	%	N	%
(2)	28	71,79.	29	74,36	34	87,18	32	82,05
(3)	6	15,38	9	23,08	4	10,26	7	17,95
(5)	1	2,56						
(6)	4	10,26	1	2,56	1	2,56		
(7)								

	Item 26 go for (attack)		Whole subtest	
Code	N	%	N	%
(2)	8	20,51	343	67,65
(3)	30	76,92	154	30,37
(5)			2	0,39
(6)	1	2,56	7	1,38
(7)			1	0,20

Proportion of (correct) phrasal/ nonphrasal responses

	Finns Level 4	Native speakers of English
Phras	**69,01**	**83,01**
Nonphr	**30,99**	**16,99**

Errors (total)

N	%
10	**1,97**

Appendix 7

Subtest OS+; Distribution of responses in subtest with items containing opaque (correct), Swedish-based phrasal verbs (5 items) among learners and native speakers

(2) = phrasal, first-priority, correct
(3) = one-part, second-priority, correct
(5) = one-part, incorrect
(6) = "phrasal", incorrect
(7) = missing value

Level 1 (Swedes) **N = 272**

	Item 9 break out (start)		**Item 18** give up (stop)		**Item 24** go through (search)		**Item 27** go against (oppose)	
Code	N	%	N	%	N	%	N	%
(2)	167	61,40	179	65,81	156	57,35	99	36,40
(3)	104	38,24	88	32,35	91	33,46	99	36,40
(5)			3	1,10	7	2,57	23	8,46
(6)					15	5,51	47	17,28
(7)	1	0,37	2	0,74	3	1,10	4	1,47

	Item 28 go under (collapse)		**Whole subtest**	
Code	N	%	N	%
(2)	180	66,18	781	57,43
(3)	59	21,69	441	32,43
(5)	14	5,15	47	3,46
(6)	16	5,88	78	5,74
(7)	3	1,10	13	0,96

Proportion of (correct) phrasal/ nonphrasal responses

	Swedes Level 1	Native speakers of English
Phras	**63,91**	**76,67**
Nonphr	**36,09**	**23,33**

Errors (total)

N	%
138	**10,15**

Level 2 (Swedes) **N = 224**

	Item 9 break out (start)		**Item 18** give up (stop)		**Item 24** go through (search)		**Item 27** go against (oppose)	
Code	N	%	N	%	N	%	N	%
(2)	128	57,14	133	59,38	99	44,20	77	34,38
(3)	95	42,41	90	40,18	114	50,89	105	46,88
(5)					5	2,23	12	5,36
(6)	1	0,45			6	2,68	29	12,95

(7)			1	0,45			1	0,45

	Item 28 go under (collapse)		Whole subtest		Proportion of (correct) phrasal/ nonphrasal responses		
						Swedes	Native speakers
Code	N	%	N	%		Level 2	of English
(2)	153	68,30	590	52,68	Phras	**56,35**	**76,67**
(3)	53	23,66	457	40,80	Nonphr	**43,65**	**23,33**
(5)	4	1,79	21	1,88	**Errors (total)**		
(6)	14	6,25	50	4,46	N	%	
(7)			2	0,18	73	**6,51**	

Level 3 (Swedes) N = 84

	Item 9 break out (start)		Item 18 give up (stop)		Item 24 go through (search)		Item 27 go against (oppose)	
Code	N	%	N	%	N	%	N	%
(2)	41	48,81	48	57,14	49	58,33	26	30,95
(3)	43	51,19	36	42,86	26	30,95	47	55,95
(5)					3	3,57	5	5,95
(6)					5	5,95	6	7,14
(7)					1	1,19		

	Item 28 go under (collapse)		Whole subtest		Proportion of (correct) phrasal/ nonphrasal responses		
						Swedes	Native speakers
Code	N	%	N	%		Level 3	of English
(2)	44	52,38	208	49,52	Phras	**53,33**	**76,67**
(3)	30	35,71	182	43,33	Nonphr	**46,67**	**23,33**
(5)	1	1,19	9	2,14	**Errors (total)**		
(6)	9	10,71	20	4,76	N	%	
(7)			1	0,24	30	**7,14**	

Level 4 (Swedes) N = 28

	Item 9 break out (start)		Item 18 give up (stop)		Item 24 go through (search)		Item 27 go against (oppose)	
Code	N	%	N	%	N	%	N	%
(2)	23	82,14	17	60,71	15	53,57	13	46,43
(3)	5	17,86	11	39,29	13	46,43	13	46,43
(5)							1	3,57
(6)							1	3,57
(7)								

	Item 28		**Whole**		**Proportion of (correct) phrasal/ nonphrasal responses**		
	go under (collapse)		**subtest**			Swedes Level 4	Native speakers of English
Code	N	%	N	%			
(2)	15	53,57	83	59,29	Phras	**60,14**	**76,67**
(3)	13	46,43	55	39,29	Nonphr	**39,86**	**23,33**
(5)			1	0,71	**Errors (total)**		
(6)			1	0,71	N	%	
(7)					2	**1,43**	

Level 1 (Finns) **N = 294**

	Item 9		**Item 18**		**Item 24**		**Item 27**	
	break out (start)		give up (stop)		go through (search)		go against (oppose)	
Code	N	%	N	%	N	%	N	%
(2)	28	9,52	133	45,24	83	28,23	108	36,73
(3)	248	84,35	151	51,36	95	32,31	74	25,17
(5)	10	3,40	2	0,68	27	9,18	37	12,59
(6)	6	2,04	4	1,36	87	29,59	71	24,15
(7)	2	0,68	4	1,36	2	0,68	4	1,36

	Item 28		**Whole**		**Proportion of (correct) phrasal/ nonphrasal responses**		
	go under (collapse)		**subtest**			Finns Level 1	Native speakers of English
Code	N	%	N	%			
(2)	44	14,97	396	26,94	Phras	**39,29**	**76,67**
(3)	44	14,97	612	41,63	Nonphr	**60,71**	**23,33**
(5)	48	16,33	124	8,44	**Errors (total)**		
(6)	154	52,38	322	21,90	N	%	
(7)	4	1,36	16	1,09	462	**38,23**	

Level 2 (Finns) **N = 212**

	Item 9		**Item 18**		**Item 24**		**Item 27**	
	break out (start)		give up (stop)		go through (search)		go against (oppose)	
Code	N	%	N	%	N	%	N	%
(2)	26	12,26	120	56,60	51	24,06	76	35,85
(3)	175	82,55	86	40,57	72	33,96	60	28,30
(5)	7	3,30	3	1,42	26	12,26	35	16,51
(6)	3	1,42	3	1,42	62	29,25	37	17,45
(7)	1	0,47			1	0,47	4	1,89

Code	Item 28 go under (collapse) N	%	Whole subtest N	%
(2)	38	17,92	311	29,34
(3)	27	12,74	420	39,62
(5)	41	19,34	112	10,57
(6)	104	49,06	209	19,72
(7)	2	0,94	8	0,75

Proportion of (correct) phrasal/ nonphrasal responses

	Finns Level 2	Native speakers of English
Phras	**42,54**	**76,67**
Nonphr	**57,46**	**23,33**

Errors (total)

N	%
329	**31,04**

Level 3 (Finns) **N = 93**

Code	Item 9 break out (start) N	%	Item 18 give up (stop) N	%	Item 24 go through (search) N	%	Item 27 go against (oppose) N	%
(2)	49	52,69	56	60,22	44	47,31	13	13,98
(3)	44	47,31	36	38,71	17	18,28	47	50,54
(5)			1	1,08	6	6,45	11	11,83
(6)					25	26,88	20	21,51
(7)					1	1,08	2	2,15

Code	Item 28 go under (collapse) N	%	Whole subtest N	%
(2)	29	31,18	191	41,08
(3)	33	35,48	177	38,06
(5)	1	1,08	19	4,09
(6)	30	32,26	75	16,13
(7)			3	0,65

Proportion of (correct) phrasal/ nonphrasal responses

	Finns Level 3	Native speakers of English
Phras	**51,90**	**76,67**
Nonphr	**48,10**	**23,33**

Errors (total)

N	%
97	**20,86**

Level 4 (Finns) **N = 39**

Code	Item 9 break out (start) N	%	Item 18 give up (stop) N	%	Item 24 go through (search) N	%	Item 27 go against (oppose) N	%
(2)	27	69,23	24	61,54	18	46,15	11	28,21
(3)	11	28,21	15	38,46	17	43,59	22	56,41
(5)	1	2,56					1	2,56
(6)					4	10,26	5	12,82
(7)								

	Item 28 go under (collapse)		**Whole subtest**		**Proportion of (correct) phrasal/ nonphrasal responses**		
Code	N	%	N	%		Finns Level 4	Native speakers of English
(2)	23	58,97	103	52,82	Phras	**57,54**	**76,67**
(3)	11	28,21	76	38,98	Nonphr	**42,46**	**23,33**
(5)			2	1,03	**Errors (total)**		
(6)	5	12,82	14	7,18	N	%	
(7)					16	**8,21**	

Appendix 8

Subtest TB+; Distribution of responses in subtest with items containing transparent (correct), Swedish-based phrasal verbs (7 items) among learners and native speakers.

(2) = phrasal, first-priority, correct
(3) = one-part, second-priority, correct
(5) = one-part, incorrect
(6) = "phrasal", incorrect
(7) = missing value

Level 1 (Swedes) **N = 272**

	Item 3 go out (leave)		**Item 4** go back (return)		**Item 5** take out (remove)		**Item 6** go down (set)		**Item 12** come into (enter)	
Code	N	%	N	%	N	%	N	%	N	%
(2)	234	86,03	166	61,03	175	64,34	71	26,10	100	36,76
(3)	30	11,03	100	36,76	88	32,35	198	72,79	169	62,13
(5)	2	0,74	2	0,74	4	1,47	2	0,74		
(6)	5	1,84	3	1,10	4	1,47			2	0,74
(7)	1	0,37	1	0,37	1	0,37	1	0,37	1	0,37

	Item 15 take off (remove)		**Item 17** put up (raise)		**Whole subtest**		**Prop. of (correct) phr./ nonphrasal**	Swed Lev 1	Nat. speak English
Code	N	%	N	%	N	%			
(2)	258	94,85	54	19,85	1058	55,57	Phras	**58,16**	**70,83**
(3)	6	2,21	170	62,50	761	39,97	Nonphr	**41,84**	**29,17**
(5)	3	1,10	44	16,18	57	2,99	**Errors (total)**		
(6)	3	1,10	2	0,74	19	1,00	N	%	
(7)	2	0,74	2	0,74	9	0,47	85	**4,46**	

Level 2 (Swedes) **N = 224**

	Item 3 go out (leave)		**Item 4** go back (return)		**Item 5** take out (remove)		**Item 6** go down (set)		**Item 12** come into (enter)	
Code	N	%	N	%	N	%	N	%	N	%
(2)	190	84,82	150	66,96	125	55,80	31	13,84	42	18,75
(3)	33	14,73	72	32,14	86	38,39	188	83,93	179	79,91
(5)							2	0,89	1	0,45
(6)			1	0,45	12	5,36	1	0,45	2	0,89

(7)	1	0,45	1	0,45	1	0,45	2	0,89

	Item 15 take off (remove)		Item 17 put up (raise)		Whole subtest	
Code	N	%	N	%	N	%
(2)	219	97,77	55	24,55	812	51,79
(3)	4	1,79	127	56,70	689	43,94
(5)			41	18,30	44	2,81
(6)					16	1,02
(7)	1	0,45	1	0,45	7	0,45

Prop. of (correct) phr./ nonphrasal

	Swed Lev 2	Nat. speak English
Phras	**54,10**	**70,83**
Nonphr	**45,90**	**29,17**

Errors (total)

N	%
67	**4,27**

Level 3 (Swedes) **N = 84**

	Item 3 go out (leave)		Item 4 go back (return)		Item 5 take out (remove)		Item 6 go down (set)		Item 12 come into (enter)	
Code	N	%	N	%	N	%	N	%	N	%
(2)	72	85,71	54	64,29	36	42,86	18	21,43	13	15,48
(3)	9	10,71	28	33,33	43	51,19	66	78,57	71	84,52
(5)	1	1,19	1	1,19	1	1,19				
(6)	2	2,38			4	4,76				
(7)			1	1,19						

	Item 15 take off (remove)		Item 17 put up (raise)		Whole subtest	
Code	N	%	N	%	N	%
(2)	82	97,62	18	21,43	293	49,83
(3)	1	1,19	46	54,76	264	44,90
(5)			19	22,62	22	3,74
(6)	1	1,19	1	1,19	8	1,36
(7)					1	0,17

Prop. of (correct) phr./ nonphrasal

	Swed Lev 3	Nat. speak English
Phras	**52,60**	**70,83**
Nonphr	**47,40**	**29,17**

Errors (total)

N	%
31	**5,27**

Level 4 (Swedes) **N = 28**

	Item 3 go out (leave)		Item 4 go back (return)		Item 5 take out (remove)		Item 6 go down (set)		Item 12 come into (enter)	
Code	N	%	N	%	N	%	N	%	N	%
(2)	25	89,29	21	75,00	13	46,43	8	28,57	8	28,57
(3)	3	10,71	6	21,43	13	46,43	20	71,43	19	67,86
(5)										
(6)					2	7,14			1	3,57
(7)			1	3,57						

	Item 15 take off (remove)		Item 17 put up (raise)		Whole subtest		Prop. of (correct) phr./ nonphrasal	Swed Lev 4	Nat. speak English
Code	N	%	N	%	N	%			
(2)	28	100,00	3	10,71	107	54,59	Phras	**55,73**	**70,83**
(3)			24	85,71	85	43,37	Nonphr	**44,27**	**29,17**
(5)			1	3,57	1	0,51	**Errors (total)**		
(6)					2	1,02	N	%	
(7)					1	0,51	5	**2,55**	

Level 1 (Finns) N = 294

	Item 3 go out (leave)		Item 4 go back (return)		Item 5 take out (remove)		Item 6 go down (set)		Item 12 come into (enter)	
Code	N	%	N	%	N	%	N	%	N	%
(2)	174	59,18	177	60,20	200	68,03	170	57,82	226	76,87
(3)	60	20,41	76	25,85	77	26,19	97	32,99	53	18,03
(5)	3	1,02	9	3,06	13	4,42	13	4,42	3	1,02
(6)	55	18,71	30	10,20	3	1,02	12	4,08	10	3,40
(7)	2	0,68	2	0,68	1	0,34	2	0,68	2	0,68

	Item 15 take off (remove)		Item 17 put up (raise)		Whole subtest		Prop. of (correct) phr./ nonphrasal	Finns Lev 1	Nat. speak English
Code	N	%	N	%	N	%			
(2)	256	87,07	73	24,83	1276	62,00	Phras	**71,65**	**70,83**
(3)	6	2,04	136	46,26	505	24,54	Nonphr	**28,35**	**29,17**
(5)	3	1,02	63	21,43	107	5,20	**Errors (total)**		
(6)	26	8,84	18	6,12	154	7,48	N	%	
(7)	3	1,02	4	1,36	16	0,78	277	**13,46**	

Level 2 (Finns) N = 212

	Item 3 go out (leave)		Item 4 go back (return)		Item 5 take out (remove)		Item 6 go down (set)		Item 12 come into (enter)	
Code	N	%	N	%	N	%	N	%	N	%
(2)	148	69,81	123	58,02	139	65,57	103	48,58	107	50,47
(3)	33	15,57	65	30,66	63	29,72	91	42,92	93	43,87
(5)	4	1,89	12	5,66	5	2,36	6	2,83	5	2,36
(6)	27	12,74	12	5,66	4	1,89	11	5,19	7	3,30
(7)					1	0,47	1	0,47		

Code	Item 15 take off (remove)		Item 17 put up (raise)		Whole subtest		Prop. of (correct) phr./ nonphrasal	Finns Lev 2	Nat. speak English
	N	%	N	%	N	%			
(2)	192	90,57	51	24,06	863	58,15	Phras	**65,78**	**70,83**
(3)	6	2,83	98	46,23	449	30,26	Nonphr	**34,22**	**29,17**
(5)	3	1,42	53	25,00	88	5,93	**Errors (total)**		
(6)	11	5,19	10	4,72	82	5,53	N	%	
(7)					2	0,13	172	**11,59**	

Level 3 (Finns) **N = 93**

Code	Item 3 go out (leave)		Item 4 go back (return)		Item 5 take out (remove)		Item 6 go down (set)		Item 12 come into (enter)	
	N	%	N	%	N	%	N	%	N	%
(2)	72	77,42	64	68,82	51	54,84	43	46,24	37	39,78
(3)	14	15,05	21	22,58	38	40,86	48	51,61	53	56,99
(5)			1	1,08	2	2,15				
(6)	7	7,53	5	5,38	2	2,15	2	2,15	3	3,23
(7)			2	2,15						

Code	Item 15 take off (remove)		Item 17 put up (raise)		Whole subtest		Prop. of (correct) phr./ nonphrasal	Finns Lev 3	Nat. speak English
	N	%	N	%	N	%			
(2)	88	94,62	14	15,05	369	56,68	Phras	**62,02**	**70,83**
(3)			52	55,91	226	34,72	Nonphr	**37,98**	**29,17**
(5)			26	27,96	29	4,45	**Errors (total)**		
(6)	5	5,38	1	1,08	25	3,84	N	%	
(7)					2	0,31	56	**8,60**	

Level 4 (Finns) **N = 39**

Code	Item 3 go out (leave)		Item 4 go back (return)		Item 5 take out (remove)		Item 6 go down (set)		Item 12 come into (enter)	
	N	%	N	%	N	%	N	%	N	%
(2)	36	92,31	34	87,18	19	48,72	19	48,72	11	28,21
(3)	1	2,56	4	10,26	18	46,15	20	51,28	28	71,79
(5)	1	2,56								
(6)	1	2,56	1	2,56	2	5,13				
(7)										

	Item 15 take off (remove)		**Item 17** put up (raise)		**Whole subtest**		**Prop. of (correct) phr./ nonphrasal**		
Code	N	%	N	%	N	%		Finns Lev 3	Nat. speak English
(2)	37	94,87	5	12,82	161	58,97	Phras	**60,53**	**70,83**
(3)	2	5,13	32	82,05	105	38,46	Nonphr	**39,47**	**29,17**
(5)			2	5,13	3	1,10	**Errors (total)**		
(6)					4	1,47	N	%	
(7)							7	**2,56**	

Matching procedure

In order to control the effects of exposure to natural input (> 10 months) and grade in English on the acquisition of English phrasal verbs, a matching procedure was used. The data comprised the proportion of phrasal verbs chosen, errors were not considered.

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(1) *Pairing variables* controlled between *natural input* and (high grade) *classroom input* groups.

(a) L1
(b) School
(c) Sex
(d) Form (level)
(e) Grade in English

Independent variables

(a) Exposure to natural input (> 10 months)
(b) Exposure to classroom input only

---

(2) *Pairing variables* controlled between the two *classroom input* groups (high and low grade).

(a) L1
(b) School
(c) Sex
(d) Form (level)
(e) Classroom input (only)

Independent variables

(a) High grade in English
(b) Low grade in English

Total test (28 items)

		Classroom input (low grade)		Classroom input (high grade)		Natural input (high grade)	
		Phr.	One-p.	Phr.	One-p.	Phr.	One-p.
Sw.	f	478	461	547	482	585	458
N=38	%	50.91	49.09	53.16	46.84	56.09	43.91
Fi.	f	371	385	464	408	531	383
N=35	%	49.07	50.93	53.21	46.79	58.10	41.90

Subtest OS- (13 items)

		Classroom input (low grade)		Classroom input (high grade)		Natural input (high grade)	
		Phr.	One-p.	Phr.	One-p.	Phr.	One-p.
Sw.	f	182	216	254	220	293	189
N=38	%	45.73	54.27	53.59	46.41	60.79	39.21
Fi.	f	134	192	207	196	258	165
N=35	%	41.10	58.90	51.36	48.64	60.99	39.01

Kaj Sjöholm

The Influence of Crosslinguistic, Semantic, and Input Factors on the Acquisition of English Phrasal Verbs

By analysing the results obtained from comparable Finnish- and Swedish-speaking learners in a specially designed test with phrasal verbs, Kaj Sjöholm argues that the acquisitional process in a classroom setting is affected by an interplay of crosslinguistic, semantic, and input factors.

The test instrument used in this study comprised a multiple-choice test with each item containing two correct alternatives, a phrasal verb (which was preferred by native speakers) and a "synonymous" one-part verb (along with two distractor verbs). The study indicates that both language groups tended to avoid or underuse English phrasal verbs, but Finns significantly more than Swedes in the early stages of learning. Another remarkable result was that the choice pattern among the Swedes tended to form a U-shaped curve with items containing Swedish-based phrasal verbs. It is argued that both the avoidance behaviour and the U-shaped behaviour are indirectly due to L1 influence (structural reasons), but these results are believed to be doubly determined, i.e. caused by the semantic properties of the phrasal verbs and the one-part verbs as well.

The data also indicated that the difference in the choice pattern between Finns and Swedes that were found among classroom learners tended to be evened out with learners who had received a great amount of natural input. Furthermore, it was found that the learners who had been abundantly exposed to natural input were those who displayed the most native-like performance.

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